Family ELECTRIDAE

The Sleepers

Palatine with branch extending up and articulating directly with lateral ethmoid apophysis behind origin of maxillary extension; mesopterygoid narrow, well developed. Hypercoracoid and hypocoracoid well developed; radials inserted on hypercoracoid, hypocoracoid, and on ligamentous cartilaginous tissue between these bones. Vertebrae 25 to 28, of which 14 to 17 caudal.

A large group, with many genera and species. Many are found buried in the mud of estuaries. They are usually easily distinguished from the Gobiidæ by their separated ventral fins.

Analysis of Genera

a.' Head armed with one or more spines.

b.' Electrinae. Preopercle armed with single, small, more or less concealed spine directed down, or group of 3 to 5 spines at angle; upper pectoral rays not silk like.

c.' Preopercle with 2 to 6 stout denticles. Asterropterix

c.² Preopercle with single downward directed sharp spine, more or less hidden. Electris

b.² Belobranchinae. Preopercle unarmed; one or more branchiostegals end in front on under surface of head in a strong spine directed forward and upward; upper pectoral rays silk like. Belobranchus

a.² Head without spines.

d.' No mental tentacle.

e.' Hypseleotrinae. Head and body

laterally compressed, suggesting cyprinodids or minnows.

f.' Scales 28 to 35. Hypseleotris

f.² Scales 55 to 68. Limbygobius

e. Head more depressed, suggesting gobioid fishes.

eg.' Bostrichthyinae. Vomer with teeth.

h.' Large black ocellus on caudal base; scales 150; lower jaw not protruded. Bostrychus

h.² No black ocellus on caudal base; scales 30 to 60; lower jaw strongly protruded. Philypnus

g.² Butinae. Vomer toothless.

i.' Head without skinny flaps on muzzle and sides.

j.' Smooth to serrated bony crests on head.

k.' Scales 26 to 30; first dorsal with 6 spines.

l.' Head very long, pointed, prismatic; deep as high; low jaw very prominent. Butis

l.² Head short, obtuse, broader than deep; lower jaw scarcely projecting. Prionobutis

k.² Scales 36 to 46; first dorsal with 6 to 8, usually 7 spines. Mogurnda

j.² No bony crests on head.

m.' Ophiocarinae. Head large, wide, depressed, lower jaw conspicuous.

m.' Head without skinny flaps.

o.' Dorsal spines 5; teeth in 4 to 6 rows, outer row enlarged; scales 88 to 92, predorsal 58; size small, 73 mm. Paloa

o.² Dorsal spines 6.

f.' Scales 94; size large, 660 mm. Giganbogobius

p.^{2} scales 30 to 60, predorsal 13 to 42.

q.^{1} Teeth uniserial; scales 44; head naked.

Leioglotris

q.^{2} Teeth quadriserial, outer and inner rows enlarged; scales 50 to 60, predorsal 32 to 42.

Boroda

q.^{3} Teeth minute, in 6 to 10 rows, no canines.

r.^{1} Scales 56 to 58, predorsal 42; broad naked furrow above eye, separated from it by single row of small scales. Bunaka

r.^{2} Scales 30 to 40, predorsal 13 to 26.

s.^{1} Mucigerous canals of head almost hidden in scales; tropical. Ophiocara

s.^{2} Scales on cheek and opercle rudimentary;

Australia, New Zealand.

t.' Lines of papillae on head distinct, exposed; size moderate.

u.' Head wide as deep. Gobiomorphus

u.² Head wider than deep. Philypnodon

t. Lines of papillae on head rudimentary, absent; size minute. Lindemanella

m.² Muzzle and cheeks with numerous cirri. Pogonelectris

m.² Valenciennei nae. Head moderate, compressed; scales 40 to 170; size moderate or large.

v.' Canines present.

w.' Scales 70 to 110, ctenoid; head naked.

x.' Dorsal spines usually elongated, sometimes front one may reach last dorsal ray.

y.' Second dorsal with spine and 12 to 18 branched rays; anal with spine and 12 to 17 branched rays.

z.' Mouth oblique; snout longer, moderate.

aa.' Two median caudal rays not protruded posteriorly. Valenciennea,

aa.² Two median caudal rays well protruded posteriorly. Electriodes

y.² Mouth nearly vertical; snout very short.

bb.' Second dorsal with spine and 12 or 13 rays; anal with spine and 12 or 13 rays. Amblyeleotris

bb.² Second dorsal with 16 or 17 rays, anal with spine and 15 rays. Parioglossus

y.² Second dorsal with spine and 28 to 30 branched rays; anal with spine and 24 to 31 branched rays.

cc.' Interorbital equals eye.

dd.' Dorsal rays all lower than body depth; anal with spine 31 rays. Oxymetopon

dd.[2] First dorsal ray greatly elongated f; anal with I spine and 24 rays. Hemateleotris

cc.[2] 9 interorbital 1/2 of eye; dorsal rays low. Orthostomus

—x.[2] Dorsal spines less than head; second dorsal with I spine and 11 rays; anal with I spine and 12 rays; dark transverse band across chest and another across middle of belly. Pteroculiops

ww.[2] Scales cycloid.

ee.[1] Scales 45 to 120; head scaly. Odonteleotris

ee.[2] Scales 150 to 170; head mostly naked.

ff.[1] Second dorsal and anal rays 10; mouth nearly vertical; eyes small; pair of upper median canines behind other teeth. Parviparma

ff.[2] Second dorsal with spine and 25 to 36 rays, anal with spine and 20 to 32 rays; mouth curved, oblique; eyes 3 to 3¾; 1 or 2 pairs of slow canines behind other teeth. gg.[2] 20 barbels. Pteroleotris

gg.[2] Median series of barbels on chin. Vireosa

ff.[3] Second dorsal with 38 rays, anal with spine and 36 rays; eye 4. Laccoleotris

vv.[3] Head and fore part of body scaleless. Taeneleotris

v.[2] No canines; scales 60 to 90, ctenoid, predorsal 70; soft dorsal and anal rays 8 to 10.

hh.[1] Scales distinct, adnate. Oxyeleotris

hh.[2] Scales deciduous, feeble or absent. Hypseleotris

m.[3] Eviotinae. Head small or large, variously compressed; scales 20 to 30; size small or minute.

ii.' None of ventral rays fringed.

jj.' Scales 25; dorsal spines 5, second dorsal with spine and 7 rays; anal with spine and 6 rays; ventral reaches over front of anal; 12 or more transverse brown bands. Podoleotris

jj.[2] No scales, body with many series of mucous pores; dorsal spines 6, second dorsal with spine and 10 rays; anal with 2 spines and 9 rays; ventral reaches halfway to anal; uniformly pale. Hemichthys

ii.[2] Ventrals long, narrow, rays fringed. Eviota

d.[2] Pogonoculiinae. Interspace between mandibular rami deep, with median, free, long tentacle; body with transverse bands. Pogonoculus

Genus ASTERROPTERIX Rüppell

Asterropterix RÜPPELL, Atlas Reise Nördl. Afrika, Fische, p. 138, 1828. (Type, Asterropterix semipunctatus RÜPPELL, monotypic.)

Asterropteryx RÜPPELL, op. cit., pl. 34, fig. 4. (Type Asterropterix semipunctatus RÜPPELL.)

Brachyeleotris BLEEKER, Arch. Néerl. Sci. Nat., Harlem, vol. 9, p. 306, 1874. (Type Eleotris cyanostigma BLEEKER, orthotypic.)

Body compressed, rather robust, with deep caudal peduncle. Head small. Snout short. Eye moderate, advanced in head. Mouth extends well below eye, inclined. Teeth moderate, uniserial or rather unevenly biserial or even triserial. No teeth on palate. Interorbital narrow. Gill opening moderate, lateral. Scales large, ctenoid or nearly smooth. Head usually naked. Two dorsals, first of 6 spines, second opposite anal and similar. Caudal and paired fins rather large. Ventrals separated, close together, each with short spine and 5 branched rays.

Indo-Pacific.

Analysis of species

a.' First dorsal spines not prolonged and filamentous; trunk without spots or bands; pectoral base with transverse brown band.

b.' Scales 28 in longitudinal row; depth 4 to 4 ½; head longer than deep.

c.' Head 4¼; brown band from eye to throat; Dorsals black with oblique white bands; caudal black medially and behind. taenionotopterus

c.² Head 4 2/5 to 4¾; head and fins without spots or bands. modestus

b.² Scales 25; depth 4; head higher than long; first dorsal with black bands, second with yellow spots. leuciscus

a.² Third dorsal spines prolonged and filamentous; trunk with spots. semipunctatus

a.³ First dorsal spine prolonged and filamentous prasinus

a.⁴³ First 3 dorsal spines prolonged and filaments trifilis

Asterropterix taenionotopterus (Bleeker)

Eleotris taenionotopterus BLEEKER, Nat. Tyds. Ned. Indië, vol. 12, p. 298, 1856-57 (type locality, Boleling, in fluviis). - GUNTHER, Cat. Fish. Brit. Mus., vol. 3, p. 118, 1861 (copied).

Eleotriodes taenionotopterus BLEEKER, Nat. Tyds. Ned. Indië, vol. 17, p. 148, 1858-59 (Bali).

Asterropteryx taenionotopterus BLEEKER, Verslag. Kon. Akad. Wet. Amsterdam, ser. 2, vol. 11, p. 80, 1877 (Bali).

Depth 4; head 4½, width 2. Snout acute, shorter than eye; eye 3 2/3, little less than interorbital; maxillary not reaching front edge of eye; upper jaw little shorter than lower; teeth pluriserial, in villiform bands, outer row little enlarged; posterior supraocular groove little conspicuous; interorbital little wider than eye.

Scales 28 in lateral series; 8 transversely between second dorsal and anal. Head laterally (and above?) scaled. Scales on trunk ctenoid.

Dorsal VI - I, 9 or 10, first fin angulate and spines more than twice lower than body, and second and third longer than others, soft dorsal obtusely rounded and more than double lower than body; anal lower than second dorsal but not shorter, with obtuse posterior angle; caudal obtusely rounded, not shorter than head without snout; pectoral rays 14, fin obtusely rounded; ventral shorter than head without snout rays I, 5. Anal papilla oblong, broadly bilobate.

Body above rose green, paler below. Iris golden green? Broad brown band from eye to throat. Dorsal fins black, with median basal and subterminal white spot, and rayed fin with 3 white bands ascending obliquely forward. Caudal golden rose basally, medially and posteriorly brownish. Pectoral rosy, with transverse basal violet band. Ventral and anal rosy, latter brownish below.

Length 40 to 53 mm. (Bleeker.)

Bali.

Asterropterix leuciscus (Bleeker)

Eleotris leuciscus BLEEKER, Nat. Tyds. Ned. Indië, vol. 4, p. 278, 1853 (type locality, West Sumatra). - GÜNTHER, Cat. Fish. Brit. Mus., vol. 3, p. 118, 1861 (copied).

Asterropteryx leuciscus BLEEKER, Arch. Néerl. Sci. Nat., Harlem, vol. 10, p. 106, 1875 (name); Verslag. Akad. Wet. Amsterdam, ser. 2, vol. 11, p. 79, 1877 (west Sumatra).

Depth 3¾; head 4½, width 2. Snout acute, shorter than eye; eye 3½ in head, equals interorbital; orbits smooth; maxillary not reaching eye; mouth cleft short; teeth in villiform bands; postocular groove inconspicuous; preopercle rounded, spineless.

Scales 25 in lateral series; predorsal 13. Head scaled.

Dorsal VI - I, 9 or 10, first fin obtusely rounded with 3 flexible spines longer than others which more than lower; second dorsal with obtuse posterior angle but lower than first dorsal; Anal I, 11, acute, lower than body; caudal obtusely convex, 4 2/3 in body; pectoral 5, obtuse, rays 13; ventral rays I, 5, length 6 in body.

Body red anteriorly, green posteriorly, scale edges deeper color. First dorsal with yellow basal band, median band black, and above broad black border. Second dorsal violaceous with yellow spots. Pectoral violaceous, with double black and yellow basal spot. Other fins red, ventral and anal edged with black below.

Length 59 mm. (Bleeker.)

Sumatra.

Asterropterix everetti Boulenger

Asterropteryx everetti BOULENGER, Ann. Mag. Nat. Hist., London, ser. 6, vol. 15, p. 186, 1895 (type locality, Palawan). - HERRE, Gobies of Philippines, p. 28, 1927 (copied). - ROXAS and MARTIN, Depart. Agric. Comm. Manila, Tech. Bull. 6, p. 219, 1937 (reference).

Asterropterix everetti JORDAN and RICHARDSON, Philippine Journ. Sci., p. 46, 1910 (reference).

Depth 3½ to 3 2/3; head equals depth, longer than deep. Snout 4 in head; eye 4; maxillary reaches below front border of eye; interorbital width 3 to 3½ in head.

Scales 27 or 28 in a longitudinal series; 8 or 9 between dorsal and anal origins.

Dorsal VI - I, 9, longest rays of first dorsal 3/5 to 2/3 length of head, of second dorsal 2/3 to ¾; Anal I, 11, longest rays 3/5 to 2/3; pectoral 4/5.

Pale olive brown. A small black humeral spot. Dorsals black in male, with round white spots, grayish in female. Caudal faintly barred.

Length 65 mm. (Boulenger.)

Palawan. Said by Boulenger to be nearest allied with Asterropteryx compressus Krefft.

Asterropterix semipunctatus Rüppell

Asterropterix semipunctatus RÜPPELL, Atlas Reise Nördl. Afrika, Fische. p. 138, 1828 (type locality, Massaua, Red Sea). - JORDAN and SEALE, Bull. Bur. Fisher., vol. 25, p. 385, pl. 36, fig. 1, 1905 (1906) (Apia; Pago Pago). - KENDALL and GOLDSBOROUGH, Mem. Mus. Comp. Zool., vol. 26, p. 317, 1911 (Fakarava, Taumotus). - MC CULLOCH and OGILBY, Rec. Austral. Mus., vol. 12, No. 10, p. 273, July 14, 1919 (reference). - FOWLER, Copeia, No. 112, p. 84, Nov. 20, 1922 (Hawaii). - FOWLER and BALL, Bishop Mus. Bull., No. 26, p. 26, 1925 (Pearl and Hermes Reef). - WHITLEY, Rec. Austral. Mus., vol. 27, No. 1, p. 27, 1927 (Suva); Journ. Pan - Pac. Res. Inst., vol. 1, No. 2, p. 7, Jan. - March 1927 (Fiji). - FOWLER, Mem. Bishop Mus., vol. 10, p. 394, 1928 (Kewalo Beach; Maui; Samoa; Honolulu; Fakarava; Waikiki; Honomuni; Pearl City; Palmyra Island; Pearl and Hermes Reef); vol. 11, No. 5, p. 361 (reference); vol. 11, No. 6, p. 441, 1934 (Suva; New Hebrides; Samoa).

Asterropteryx semipunctatus RÜPPELL, Atlas Reise Nördl. Afrika, Fische, pl. 34, fig. 4, 1838. - GÜNTHER, Cat. Fish. Brit. Mus., vol. 3, p. 132, 1861 (copied). - KNER, Sitz. Ber. Akad. Wiss. Wien, vol. 57, pt. 1, p. 329, 1868 (Samoa). - KLUNZINGER, Verh. Zool.-bot. Ges. Wien, vol. 21, p. 484, 1871 (Red Sea). - JENKINS, Bull. U.S. Fish Comm., vol. 22, p. 500, 1902 (1903) (Honolulu). - JORDAN and EVERMANN, Bull. U.S. Fish Conn., vol. 23, pt. 1, p. 480, 1903 (1905) (Waianae; Waikiki; Honolulu; Samoa). - OGILBY, Mem. Queensland Mus., vol. 3, p. 125, pl. 29, fig. 2, 1915 (Queensland). - JORDAN and JORDAN, Mem. Carnegie Mus., vol. 10, No. 1, p. 77, Dec. 1922 (Honolulu). - HERRE, Gobies of Philippines, p. 28, pl. 1, fig. 2

- Mc Culloch and Whitley, Mem. Queensland Mus., vol. 8, pt. 2, p. 170, July 7, 1925 (reference).

(Sitanki; Caldera Bay; Samal); Journ. Pan-Pac. Res. Inst., vol. 6, No. 4, p. 13, Oct.-Dec. 1931 (New Hebrides); vol. 7, No. 1, p. 5, Jan.-March 1932 (Tahiti); Fishes Herre 1931 Philippine Exped., p. 80, 1934 (Cebu; Sitanki).- ROXAS and MARTIN, Dep. Agric. Comm. Manila, Tech. Bull. 6, p. 220, 1937 (reference). - TOMIYAMA, Jap. Journ. Zool., vol. 7, No. 1, p. 40, fig. 2, 1936 (Sahelsi; Hatizyo - jima; Onna-mura, Okinawa; Palau).

Eleotris semipunctata GÜNTHER, Journ. Mus. Godeffroy, vol. 6, pt. 11, p. 187, pl. 111, fig. D, 1877 (Samoa; Society Islands; Pelew Islands; Boroen, Queensland).

Eleotris (Asterropteryx) semipunctatus SCHMELTZ, Cat. Mus. Godeffroy, No. 8, p. 6, 1881 (Ponape). - Pöhl, op. cit., No. 9, p. 33, 1884 (Ponape).

Eleotris cyanostigma BLEEKER, Nat. Tyds. Ned. Indië, vol. 8, p. (446) 452, 1855 (type locality, Kokos Islands); vol. 11, p. 385, 1856 (Kajeli, Buru). - GÜNTHER, Cat. Fish. Brit. Mus., vol. 3, p. 119, 1861 (copied). - PLAYFAIR, Proc. Zool. Soc. London, p. 862, 1867 (Seychelles). - BLEEKER, Rech. Faune Madagascar, pt. 4, Poiss., p. 103, 1874 (reference). - KOSSMAN, Zool. Anzeiger, vol. 2, p. 22, 1879 (Red Sea). - DE VIS, Proc. Linn. Soc. N.S. Wales, vol. 9, p. 693, 1884 (Cape York). - OGILBY, Proc. Linn. Soc. N.S. Wales, vol. 21, p. 753, 1897.

Eleotriodes cyanostigma BLEEKER, Nat. Tyds. Ned. Indie, vol. 15, p. 460, 1858.

Brachyeleotris cyanostigma BLEEKER, Verslag, Kon. Akad. Wet. Amsterdam, ser. 2, vol. 11, p. 84, 1877 (Cocos Island). - STREETS, Bull. U.S. Nat. Mus., No. 7, pp. 58, 95, 1877 (Oahu coral reef; Samoa).

Asterropteryx cyanostigma SNYDER, Bull. U.S. Fish Comm., vol. 22, p. 536, 1902 (1904) (Honolulu).

Priolepis auriga (Ehrenberg) KLUNZINGER, Verh. Zool.-bot. Gesell. Wien, vol. 21, p. 484, 1871 (type locality, Red Sea). (name in synonymy).-

HILGENDORF, Symbol. Phys. Hemprich and Ehrenberg, p. 9, pl. 9, fig. 7, 1899.

Eleotris miniatus SEALE, Occas. Pap. Bishop Mus., vol. 1, No. 3, p. 125, 1900 (type locality, Guam).

Eviota miniata JORDAN and SEALE, Bull. Bur. Fisher., vol. 25, p. 386, 1905 (1906) (reference).

Asterropteryx monacanthus REGAN, Trans. Linn. Soc. London, ser. 2, vol. 12, p. 240, 1908 (type locality,

Asterropterix semipunctatus quisqualis WHITLEY, Great Barrier Reef Exped., Sci. Rep. vol. 4, No. 9, p. 300, 1932 (type locality, Low Islands).

Depth 2 7/8 to 3 1/10; head 3 1/3 to 3 1/2, width 1½ to 1⅗. Snout 3 1/3 to 4 in head from snout tip; eye 3 7/8 to 4 1/2, 1 1/3 to 1 2/5 in snout, 1 3/4 to 2 in interorbital; maxillary reaches front of eye, length 2 7/8 to 3 in head from snout tip; teeth in several irregular rows in jaws; interorbital 2 3/4 to 2 4/5, low, little convex.

Scales 24+-2 in median lateral series; 8 or 9 transversely, 6 predorsal. Scales with 7 or 8 basal radiating striae and 1 to 3 auxilaries; 11 or 12 curved marginal striae above and below; apical denticles 22 to 26+-25 to 28.

D. VI—I, 7, i, to 11, i, third spine elongated filament reaching to caudal base, first spine 1 4/5 in total head length, third branched ray 1 1/2; A. I, 8, i, to 9, i, seventh ray 1 1/6; least depth of caudal peduncle 1 7/8; pectoral 1; ventral 1.

Light brown, with scattered, small, light blue dots on both head and body. Six darker saddle like blotches on back, little defined, and alternating with median row of similar blotches axially. Fins pale brownish.

Red Sea, Seychelles, Cocos-Keeling Islands, East Indies, Philippines, Riu Kiu, China, Japan, Queensland, Melanesia, Micronesia, Polynesia, Hawaii.

Sixteen examples. Cebu market, March 22, 1909. Length 33 to 55 mm.

Five examples. Cebu market. September 3, 1909. Length 36 to 45 mm. [1885.]

Eleven examples. Cebu, on reef opposite. April 7, 1908. Length 19 to 44 mm.

Seven examples. Mactan Island, tide pools. August 3, 1909. Length 25 to 40 mm.

Three examples. Mactan Island, tide pools. August 31, 1909. Length 30 to 38 mm.

Three examples. Nasipit, tide pools, Mindanao. August 1, 1909. Length 28 to 32 mm.

One example. Pilas Island. September 12, 1909. Length 25 mm.

One example. Port Matalvi, Luzon. Verie 130 feet. November 23, 1908. Length ~~130 feet~~ 31 mm.

Two examples. Reef opposite Cebu. April 5, 1908. Length 28 to 32 mm.

Three examples. San Pascual, Burias Island, tide pool. March 8, 1908. Length 20 to 32 mm.

One example. Simaluc, Bisibisi Island, tide pool. September 23, 1909. Length 25 mm.

Three examples. Tataan, Simaluc Island, shore capped. February 19, 1908. Length 32 to 36 mm.

Five examples. Tataan. February 20, 1908. Length 20 to 31 mm.

Six examples. Great Tobea Island, Dutch East Indies. December 15, 1909. Length 16 to 34 mm.

One example. Great Tobea Island. Tide pools. December 11, 1909. Length 44 mm.

U.S.N.M., no. 15115. Samoan Islands. A.B. Steinberger. Length 33 to 44 mm.

U.S.N.M., no. 15395. Honolulu, Oahu. Dr. T.H. Streets. Length 36 mm.

U.S.N.M., no. 38284. Honolulu. Dr. W. H. Jones. Length 43 mm.

U.S.N.M., no. 51160. Honolulu, Oahu. Bureau of Fisheries. Length 23 mm.

U.S.N.M., no. 51783. Apia, Samoa. Bureau of Fisheries. Length 17 mm.

U.S.N.M., no. 52252. Apia, Samoa. Bureau of Fisheries. Length 17 to 38 mm. Six examples. In poor preservation.

U.S.N.M., no. 55448. Honolulu Reef, Oahu. Bureau of Fisheries. Length 20 to 38 mm. Seven examples.

U.S.N.M., no. 65742. Takarava, Tuamotus. October 11, 1899. U.S. Fish Commission (05920). Albatross Collection. Length 35 mm.

U.S.N.M., no. 84280. Pearl Harbor, Oahu. Henderson and Bartsch. Length 38 to 50 mm. Six examples.

U.S.N.M., no. 85904. China. A. de C. Sowerby. Length 44 mm.

~~One example. Tomahu Island, tide pools. December 11, 1909. Length 44 mm.~~

Asterropteryx trifilis new species

U. S. N. M., no. . Capiz
Bay. February 24, 1909. Length
32 mm. Type.

Apparently differs from the known species in the combination of characters, as: the first 3 dorsal spines flexible and ending in elongated filaments, when depressed reaching well back into last dorsal rays; naked head and predorsal region, well inclined mouth beginning well within level of lower part of eye, and no trace of preopercular spines.

CHAULIODISTES new subgenus

Type Eleotris prasinus Klunzinger.

Head scaleless. First forsal spine prolonged filament.

Coloration with dots and spots and dark underlaid cross bands.

(χαυλιοδων tusk, with reference to the tooth on side of mandible.)

Asterropterix prasinus (Klunzinger)

Eleotris prasinus KLUNZINGER, Verh. Zool.-bot. Gesell. Wien, vol. 21, p. 481, 1871 (type locality, Red Sea). - BLEEKER, Archiv. Néerl. Sci. Nat. Harlem, vol. 10, p. 106, 1875 (name only).

Depth 5; head 4¼, width 1½. Snout 2 in head; eye 2½; mouth oblique; maxillary extends ½ in eye; teeth in close set bands in jaws, outer row in each little enlarged; eyes close together; at side of lower jaw, each side a tusk. Gill opening extends nearly below pectoral base.

Scales 26 in lateral series. Head and pectoral base naked.

Dorsal VI - I, 9 to 11, fins separated; Anal I, 8; caudal rounded; pectoral rays 16, fin little longer than ventral; ventral rays I, 5, fins close together, reach vent.

Clear green. Head and breast with brownish red, black dots and silvery spots. Most scales with small blackish dots. On belly row of black spots, also on back, and seen through scales as blackish cross bands. Iris with brownish red and silvery rays. Ventrals hyaline, other fins finely dotted with black. On side of tail usually a black blotch.

Length 2 cm. (Klunzinger.)

Red Sea. Said to differ from the related Eleotris cyanostigma Bleeker in its scaless head, the elongated first dorsal spine (not the third), and its color.

Genus ELEOTRIS Gronow

Eleotris GRONOW, Zoophylac., p. 83, 1763 (species non-binomial).

(Type Gobius pisonis GMELIN = Eleotris gyrinus VALENCIENNES, designated by BLEEKER, Arch. Néerl. Sci. Nat. Harlem, vol. 9, p. 302, 1874.)

Gobiomoroides LACEPÈDE, Hist. Nat. Poiss., vol. 2, p. 592, 1800

(Type Gobiomoroides pison LACEPÈDE = Gobius pisonis GMELIN, monotypic.)

Epiphthalmus RAFINESQUE, Analyse de la nature, p. 86, 1815 (Type Gobiomoroides pison LACEPÈDE, virtually, as Epiphthalmus RAFINESQUE proposed to replace Gobiomoroides LACEPÈDE.)

Culius BLEEKER, Nat. Tyds. Ned. Indië, vol. 11, p. 41, 1856.

(Type Poecilia fusca SCHNEIDER, monotypic.)

Body elongate, low, cylindrical anteriorly, compressed behind. Head robust, low, flattened above. Snout broad, obtuse. Eye supralateral, advanced, small. Mouth large, oblique, lower jaw projecting in front. Tongue free, little convex in front. Band of villiform teeth in each jaw, outer row little enlarged. Interorbital little convex, greater than eye. Preopercle with small spine, more or less concealed, at angle. Nostrils widely separated, anterior pair tubular. No barbels. Gill openings extend little forward below, isthmus moderately wide. Front gill rakers of first arch few, thick, about 8 on lower limb. Psendobranchiae present. Scales small, 40 to 65 in lateral axial row, mostly cycloid on nape, breast and abdomen, others ctenoid. Head with small cycloid scales, extend forward to hind nostrils, cover and cheeks and opercles; often concealed in mucous in preserved specimens. Snout, upper surface of head, cheeks, opercles and mandible with many rows of microscopic mucigerous papillae. Dorsals well separated, first with 6 or 7 flexible spines, and 9 rays. Anal like soft dorsal. Caudal and pectorals rounded. Ventrals widely separated, each with spine and 5 rays.

Species numerous, along the coasts and in rivers, between the tropics.

I have found only the following reference to a species apparently never described:

Eleotris melanorhynchos BLEEKER, Nat. Tyds. Ned. Indie, vol. 3, p. 419, 1852 (type locality, Bandjermassing, Borneo) (no description, name only).

Eleotris canarensis Day

Eleotris canarensis DAY, Fishes of India, pt. 3, p. 313, pl. 69, fig. 2, 1877 (type locality, Mangalore); Fauna British India, Fishes, vol. 2, p. 294, 1889.

Depth 5; head 2 4/5, width 1 1/3. Snout 7 in head, from snout tip, elevated; eye 4¾, greater than snout, subequal with interorbital; maxillary reaches below middle of orbit, length 2 4/5 in head from snout tip; mouth cleft very oblique, begins opposite upper eye edge, and lower jaw protruded in front; teeth in numerous villiform rows, very small, equal; interorbital flat; no serrated ridges on head; upper surface of head flat; no preopercular spine. Branchiostegals 6.

Scales 58 in lateral series; 17 transversely; 42 predorsal; 6 rows across interorbital. Scales strongly ctenoid behind head and base of dirst dorsal, on upper surface of head nearly as large as on body, extend forward to snout and cover cheeks and opercles.

Dorsal VI - I, 8, second spine 3½ in total head length, first ray 3; Anal I, 7, third ray 2 4/5; caudal 1 4/5; convex behind; least depth of caudal peduncle 2 4/5; pectoral 1¾, rays 16; ventral rays I, 5, fin 2 in total head length. Anal papilla short point (on figure).

Dark brown, mottled with black. First dorsal black, with white band along lower third (figure shows fin pale with 4 oblique parallel black bands of which uppermost marginal).

Second dorsal with 6 or 7 bands of spots. Anal with bands of spots. Caudal reticulated with black spots and with black basal band (figure shows 5 transverse arched parallel blackish bands). Pectoral yellow, with several black bands of spots (about 8 transverse dark bands on figure). Ventral spotted.

Length 137 mm. (Day.)

India. Apparently close to Eleotris fusca.

Eleotris castelnaui Macleay

Eleotris castelnaui MACLEAY, Proc. Linn. Soc. New South Wales, vol. 5, pt. 4, p. 620, May 20, 1881 (on CASTELNAU). - MC CULLOCH and OGILBY, Rec. Austral. Mus., vol. 12, No. 10, p. 270, July 14, 1919 (reference) - MC CULLOCH, Mem. Austral. Mus., No. 5, pt. 3, p. 361, Nov. 28, 1929 (reference).

Eleotris obscurus (not SCHLEGEL) CASTELNAU, Proc. Zool. Acclim. Soc. Victoria, vol. 2, p. 134, May 10, 1873 (type locality, Fremantle, Western Australia).

Head 4 in total length, large, broad; body narrower than head. Snout of moderate length; orbit 6 in head; mouth cleft rather oblique; throat very much inflated; lower jaw rather longer than upper; teeth small, disposed on each jaw in numerous rows; interorbital 4 2/3 in head; preopercle without a spine; some elevated longitudinal lines on preopercle.

Scales 37 or 38 in lateral series; 11 transversely. Scales ciliated on edge, entirely striated longitudinally. Head naked.

Dorsal IX - 9; Anal 8; soft dorsal and anal high, rays rather longer than others; caudal 5 in total length, elongated, rounded, formed of 14 rather long rays and several shorter ones; paired fins subequal, end little before hind root of first dorsal.

In alcohol dark brown. No black spot on pectoral base.

Little over 75 mm. (Castelnau.)

Western Australia.

Eleotris dalyensis Rendahl

Eleotris dalyensis RENDAHL, Medd. Zool. Mus. Kristiania, Nos. 5 and 6, p. 192, 1922 (type locality, Daly River, North West Australia).-

MC CULLOCH, Mem. Austral. Mus., vol. 5, pt. 3, p. 362, Nov. 28, 1929 (reference).

Depth 5 to 5 9/10; head 2 7/10 to 2 9/10, rather strongly depressed. Snout little longer than interorbital space; eye 4 2/5 to 5 3/5 in head, 1 1/10 to 1 2/5 in snout, 1 to 1 3/10 in interorbital; maxillary reaches ½ in eye; lower jaw prominent; bar of equally shaped villiform teeth in each jaw, in upper ¼ of eye diameter, lower bar somewhat narrower but little stronger teeth posteriorly; palate toothless; interorbital space 1 to 1 1/10 in snout; preopercle without spine.

Scales 58 to 60 in lateral series; 18 transversely between anal and s econd dorsal, 28 round caudal peduncle. Scales on upper side of head reach to between eyes.

Dorsal VI - I, 9; Anal I, 8; Pectoral i, 15.

In spirits brownish, lighter on belly. Dark longitudinal bar from snout through eye to tail, rather broad and reaches over several rows of scales; margins not sharply defined, more or less variegated by lighter irregular spots, which sometimes confluent to light streak. Well marked light streak borders upper edge of dark bar on postocular part of head. On root of tail bar broadens out and encloses one or more light spots. Caudal barred and variegated with dark and light color, other fins hyalin or partly marked with scattered blackish pigmentation.

Length without caudal 32 to 57 mm. (Rendahl)

North West Australia. Rendahl says "I am unable to find any closer connection between this new species and the small-scaled Eleotrids before known from Australian waters. On the other hand, it shows very great resemblances to Eleotris herwerdenii Max Web." Unfortunately described without further details and lack of figure, render it difficult to ascertain its relationship.

Eleotris delagoensis Barnard

Eleotris delagoensis BARNARD, Ann. South African Mus., vol. 21, p. 811, Oct. 1927 (type locality, Delagoa Bay).

Depth 4 1/3, body moderately compressed; head 3, broad as deep. Eye 4½ in head, slightly less than snout, slightly greater than interorbital; maxillary reaches 1/3 in eye; no canine teeth; no preopercular spine. First gill cleft reduced in size. Lower gill rakers 13, moderately developed. Psendobranchiae well developed.

Scales 28 in lateral series; 9 transversely. Head scaly, except on interorbital, snout, suborbital and mandible. Row of small spiniform cutaneous projections on supraorbital, continued on to snout. Rows of papillae as 6 vertical rows below eye, with horizontal row below, around lower edge of preopercle, and in groove below mandible.

Dorsal VI - I, 8; Anal I, 9; Pectoral 21, longer than ventrals.

Brownish, with irregular darker mottling. Dorsals and anal dark, latter with light edge.

Length 58 mm. (Barnard.)

Portuguese East Africa. According to Barnard "This species is easily distinguished by the large scales and the rows of papillae on the head".

Eleotris fasciapinnis new species

Depth 4 2/3 to 4¾; head 2 7/8 to 3, width 1½ to 1 4/5. Snout 4 to 4 1/5 in head from snout tip; eye 4½ to 5, 1 to 1 1/8 in snout, 1 to 1 1/5 in interorbital; maxillary reaches below eye 1/5 to ¼ of eye, length 3 in head from snout tip; lower jaw well protruded in front; lips thick, fleshy; tongue free, with front edge convex, entire; teeth minute, villiform, in bands of moderate width in jaws, and none on palate or tongue; upper hind vertical edge of preopercle with small free spine, directed down; interorbital 4 7/8 to 6 1/5 in head from snout tip. Gill opening large, extends forward until opposite short space behind eye. Gill rakers 5 + 9, lanceolate, rather strong points, 1/3 of gill filaments, which 1 3/5 in eye.

Scales 37 or 38 + 7 in axial lateral series; 18 transversely between soft dorsal and anal origins; 34 predorsal forward opposite hind nostrils. Head with all of postocular region and opercles scaly; muzzle, lower cheek and entire under surface of head scaleless. Small scales on chest, breast, belly and caudal base, also on postocular region. Row of fine papillae over nostrils, upper edge of eye and back to suprascapula; row from lower hind edge to upper end of preopercle, another horizontal along middle of cheek; row along each mandibular ramus and flange of preopercle. Scales with 20 to 23 basal radiating striae; row of 22 or 23 + 15 to 23 apical denticles, graduated little larger each side of scale; circuli fine.

Dorsal VI - I, 9, i, third spine 2 2/3 to 2 4/5 in total head length, first branched ray 2 to 2 2/5; Anal I, 8, i, second branched ray

1 7/8 to 2; caudal 1 1/8 to 1 1/5, convex behind; least depth of caudal peduncle 2½ to 2 2/3; pectoral 1½ to 1 2/3, rays 19; ventral rays I, 5, fin 1 3/5 to 1 2/3 in total head length. Anal papilla flat fleshy flap.

Color brown generally, lighter to fawn color on under surface of head and belly. Along side of body 6 large dark brown and more or less quadrate blotches, about 5 scales deep, with narrow pale interspaces. Dark brown bar on preorbital, reflected on lips. Front of snout and lips paler or creamy. Under or lower side of head with creamy or whitish blotches, more numerous and closer with age. Iris gray brown. Fins all more or less cream white, dorsals with 3 or 4 blackish horizontal bands, same on caudal with only basal much broader and jet black; and with 4 blackish bands; pectoral with 6 transverse blackish bands and 2 large black basal blotches; ventral with 5 blackish bars.

Philippines, East Indies. Well distinguished by its greatly contrasted white fins, with broad black cross bands.

6736 (metal). Amilao River, Passi, Iloilo, Panay Island. January 14, 1909. Length 95 mm. Type.

Two examples. Nanjan River, Mindoro. June 5, 1908. Length 63 or 64 mm. Paratypes.

One example. Gorantalo River, Celebes. November 15, 1909. Length 60 mm. Paratype.

Eleotris fimbriatus Weber

Eleotris fimbriatus WEBER, Nova Guinea, vol. 5, pt. 2, p. 254, 1908 (type locality, Etna Bay, south west New Guinea); vol. 9, pt. 4, p. 594, pl. 13, fig. 1, 1913 (Sabang; Lorentz River; Alkmaar). - FOWLER, Mem. Bishop Mus., vol. 10, p. 393, 1928 (compiled).

Eleotris fimbriata REGAN, Trans. Zool. Soc. London, vol. 20, pt. 6, p. 276, 1914 (Mimika River, New Guinea).

Depth 4¼ to 4½; head 2¾ to 3. Snout 4 2/5 in head from snout tip; eye 6 to 6¾, 1 2/3 in snout; 1½ in interorbital; maxillary reaches ½ in eye, length 2 2/3 in head from snout tip; lower jaw well protruded in front, upper lip edge villose; fine teeth in narrow bands, with lower detached one behind middle of enlarged conic row; palate toothless; front nostril tubular, at lip edge, posterior one rounded. Gill opening wide, isthmus narrow.

Scales 60 to 65 in lateral series; 20 or 21 transversely. Scales ctenoid, except on belly, back anteriorly and head, where cycloid. Predorsal scales forward to eye and over opercle.

Dorsal VI - 12 or 13, third spine 3 1/8 in total head length, first branched ray 3, twelfth branched ray 2½; Anal 10 or 11, first branched ray 3 1/5, seventh branched ray 2¼; caudal 1 3/7, convex behind; least depth of caudal peduncle 2 1/3, pectoral 1½, rays 15 or 16; ventral fin 1 4/5 in total head length.

In alcohol yellowish gray, under parts paler. From below eye 3 oblique bands back and downward. Before eye dark triangular blotch. Second dorsal and caudal with rows of dots in hyaline gray, likewise of other fins. At upper caudal base indication of dark ocellus.

Length 80 to 300 mm. (Weber.)

New Guinea. Said to be related to Eleotris gyrinus Bleeker and Eleotris urophthalmoides Bleeker, differing in the fins, enlarged lower teeth and villose lip edge.

Eleotris fusca (Schneider)

Poecilia fusca SCHNEIDER, Syst. Ichth. Bloch, p. 453, 1801 (type locality, "Habitat in Oriadeae insulae rivulis sub plantis ad ripas plerumque sub coeno latens" [= New Hebrides]).

Eleotris fusca GUNTHER, Cat. Fish. Brit. Mus., vol. 3, p. 125, 1861 (Ganges River; Calcutta; Bengal Bay; Amboina; Aneiteum fresh water; Oualon fresh water; Wanderer Bay fresh water; Ceylon; type of Eleotris mauritianus). - SCHMELTZ, Cat. Mus. Godeffroy, No. 1, p. 9, 1864 (Viti Levu); No. 2, p. 8, 1865 (Viti Levu). - KNER, Reise Novara, Fische, p. 186, 1865 (Tahiti; Ceylon; Nicobars). - DAY, Fishes of Malabar, p. 115, 1865; Proc. Zool. Soc. London, pp. 28, 254, 1865. - PLAYFAIR, Fishes of Zanzibar, p. 74, 1866. - PETERS, Monatsb. Akad. Wiss. Berlin, p. 268, 1868 (Luzon; Samar). - DAY, Proc. Zool. Soc. London, p. 517, 1869. - GUNTHER, Cruise of Curacoa, Brenchly, p. 410, 1873 (Solomons). - SCHMELTZ, Cat. Mus. Godeffroy, No. 5, p. 28, 1874 (Viti Levu); No. 6, p. 14, 1877 (Vavao). - GUNTHER, Journ. Mus. Godeffroy, vol. 6, pt. 11, p. 188, 1877 (Solomons; New Hebrides; Samoa; Society Islands). - DAY, Fishes of India, pt. 3, p. 313, pl. 65, fig. 7, 1877-

SCHMELTZ, Cat. Mus. Godeffroy, No. 7, p. 47, 1879 (Viti Levu). - GÜNTHER, Rep. Voy. Challenger, vol. 1, pt. 6, p. 35, 1880 (Levuka, Fiji), p. 58 (Papeete, Tahiti), p. 60 (Honolulu fresh water). - KÁROLI, Termesz. Füzetek, Budapest, vol. 5, p. 167, 1881 (1882) (Ceylon; Canton). - MACLEAY, Proc. Linn. Soc. New South Wales, vol. 5, p. 623, 1881 (Australia). - PÖHL, Cat. Mus. Godeffroy, No. 9, p. 33, 1884 (Viti). - DAY, Fauna British India, Fishes, vol. 2, p. 293, 1889. - BOULENGER, Ann. Mag. Nat. Hist. London, ser. 6, vol. 15, p. 186, 1895 (Palawan). - REUVENS, Notes Leyden Mus., vol. 16, p. 153, 1895 (rivers between Mangili and Wasang; Andamans; Calcutta; Samberano River, Madagascar; East Indies; Maumeri, East Flores), p. 154 (Groot-Bustard), p. 155 (Lake Danau - Naluk, Rotti). - ISHIKAWA and MATSUARA, Cat. Fish. Jap., p. 31, 1897. - PELLEGRIN, Bull. Mus. Hist. Nat. Paris, vol. 4, p. 229, 1898 (Saypan, Guam). - OGILBY, Proc. Linn. Soc. New South Wales, vol. 22, p. 791, 1898 (New Caledonia). - STEINDACHNER, Abhandl. Seuckenberg. Gesell., vol. 25, p. 432, 1900 (Hahnacheira; Batjan; Ternate). - SEALE, Occas. Pap. Bishop Mus., vol. 1, No. 3, p. 124, 1900 (Guam). - JORDAN and SNYDER, Proc. U.S. Nat. Mus., vol. 24, p. 45, 1901 (on Ishikawa). - SEALE, op. cit., vol. 1, No. 5, pp. 17, 19, 20, 1902 (Honolulu).- FOWLER, Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol. 12, p. 550, June 10, 1904 (Padang). -

SEALE, Occas. Pap. Bishop Mus., vol. 4, No. 1, p. 84, 1906 (Tahiti; Tubuai; Nukuhiva). - STEINDACHNER, Sitz. Ber. Akad. Wiss. Wien, vol. 115, No. 1, p. 1406, 1906 (Upolu, Samoa). - JORDAN and SEALE, Bull. Bur. Fisher, vol. 25, p. 383, 1905 (1906) (Apia; Vaimosa; Pago Pago). - JORDAN and RICHARDSON, Bull. Bur. Fisher., vol. 27, p. 274, 1908 (Aibuyan; Aparri, Luzon); Philippine Journ. Sci., p. 45, 1910 (reference). - DUNCKER, Mitt. Naturh. Mus. Hamburg, vol. 29, p. 254, 1911 (Panddhure; Benthota; Vakvella).- PIETSCHMANN, Nassau. Ver. Nat. Jahrb. Weisbaden, pt. 66, p. 199, 1913 (Friedrich-Wilhelms-Hafen, New Guinea). - WEBER and BEAUFORT, Nova Caledonia, Sarasin and Roux, Zool., vol. 2, pt. 1, p. 33, 1915 (Oubatche; Bondi; Tshalabel River; Tao; Canala). - BOULENGER, Cat. Fresh Water Fish. Africa, vol. 4, p. 21, fig. 14, 1916. - GILCHRIST and THOMPSON, Ann. Durban Mus., vol. 1, pt. 4, p. 401, 1917 (reference). - FOWLER, Copeia, No. 58, p. 65, June 18, 1918 (Philippines). - MC CULLOCH and OGILBY, Rec. Austral. Mus., vol. 13, p. 268, 1919 (Oubatche, New Caledonia; Santo, New Hebrides; Samoa; Calcutta; northern Queensland). - Fowler, Copeia, No. 112, p. 84, Nov. 20, 1922 (Hawaii); Proc. Acad. Nat. Sci. Philadelphia, vol. 75, p. 43, 1923 (Madagascar); Bull. Bishop Mus., No. 22, p. 17, 1925 (Guam), p. 30 (Honolulu), p. 35 (Samoa), p. 38 (Tahiti). - FOWLER and BALL, Bull. Bishop

Mus., No. 26, p. 26, 1925 (Palmyra Island). - DERANIYAGALA, Ceylon, Adm. Rep., p. FE, 1926. - FOWLER and BEAN, Proc. U.S. Nat. Mus., vol. 71, p. 10, 1927 (Benkoelen, Sumatra), p. 15 (Tahiti). - HERRE, Gobies of Philippines, p. 30, pl. 2, fig. 1, 1927 (Pasig R.; Agno R.; Balinag; Cabatohan R.; Bataan Province; Rawis R.; Yawa R.; Aringay R.; Arimbay R.; Bacon; Polillo; Tambo R.; Puerto Galera; Sibuyan; Mambugan swamp; Mariri R.; San Jose; Villa; Jordan R.; Dumaguete R.; Lasay; Anahawan and Cabalian; Cagayan; Titunod R.; Cadera Bay and George R.; Rio Grande de Mindanao; Saub R.; Balabac; Baucolid R.; Siasi; Buan I.; Lapid Lapid; Sitanki; Calcutta; Guam). - BARNARD, Ann. South African Mus., vol. 21, pt. 2, p. 810, Oct. 1927 (Natal; East Africa). - FOWLER, Mem. Bishop Mus., vol. 10, p. 392, 1928 (Pacific Ocean; Honolulu; Hawaii; Apia; Oahu; Fiji; Hanalei R.; Waiamea R.; Bonin Islands; Laie Stream; Hilo; Honomuni; Guam; Tubuai; Nukuhiva; Tahiti; Palmyra; Society Islands; Kusaie). - WHITLEY, Journ. Pan-Pac. Res. Inst., vol. 3, No. 1, p. , Jan.-March 1928 (Santa Cruz Islands). - FOWLER, Proc. Acad. Nat. Sci. Philadelphia, vol. 81, p. 614, 1929 (Hong Kong). - HERRE, Journ. Pan-Pac. Res. Inst., vol. 6, No. 4, p. 10, Oct-Dec. 1931 (Moorea, Society Islands), p. 13 (fresh waters New Hebrides). - FOWLER, Mem. Bishop Mus., vol. 11, No. 5, p. , 1931 (Honolulu). - HERRE, Journ.

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Eleotris (Culius) Fusca SCHMELTZ, Cat. Mus. Godeffroy, No. 4, p. 18, 1869 (Viti Levu). - WEBER, Nova Guinea, vol. 5, pt. 2, p. 257, 1908 (Klipong R., Mamupiri, Mawi, Moso, north New Guinea; Muturi, west New Guinea; Ron Island); Siboga Exped., vol. 57, Fische, p. 449, 1913 (Lombok; Savu; North Celebes; Karakelang Island; Salibabu; Obi major; Strand).

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Eleotris fuscus OGILBY, Proc. Linn. Soc. New South Wales, vol. 22, p. 769, 1897 (New Caledonia). - FOWLER, Proc. Acad. Nat. Sci. Philadelphia, p. 51, 1900 (Honolulu), p. 523 (Tahiti). - WEBER, Nova Guinea, vol. 9, pt. 4, p. 596, 1913 (Mbai River, Seka, Biwak). - MC CULLOCH, Austral. Mus. Mem., vol. 5, pt. 3, p. 360, Nov. 28, 1929 (reference).

Eleotris (Culius) fuscus BEAUFORT, Bydr. Dierk. Amsterdam, vol. 19, p. 136, 1913 (Waiha R., Mumes brook, Rabai R., branch Bayon R., Waisa R., Waigiu).

Culius fuscus BLEEKER, Ned. Tyds. Dierk., vol. 2, p. 150, 1865 (Bouro).- STREETS, Bull. U.S. Nat. Mus., No. 7, p. 57, 1877 (Oahu fresh water). - BLEEKER, Verslag. Kon. Akad. Wet. Amsterdam, ser. 2, vol. 11, p.40, 1877 (Sumatra; Nias; Singapore; Java; Bali; Borneo; Sumbawa; Celebes; Batjan; Buru; Ceram; Amboina; Waigiu; New Guinea; Luzon; Samar).

Cobitis pacifica (FORSTER) SCHNEIDER, Syst. Ichth. Bloch, p. 453, 1801 (type locality, Tahiti). - LICHTENSTEIN, Descript. Animal. Forster, p. 235, 1844 (Oridea).

Cheilodipterus culius BUCHANAN-HAMILTON, Fishes of Ganges, pp. 55, 367, pl. 5, fig. 16, 1822 (type locality, Ganges River).

Eleotris nigra QUOY and GAIMARD, Voy. Uranie, Zool., p. 259, pl. 60, fig. 2, 1824 (type locality, Waigiu). - VALENCIENNES, Hist. Nat. Poiss., vol. 12, p. (175) 235, 1837 (Mauritius; Ganges River; Malabar; Bombay; Java; Tahiti; Borabora; Society Islands; Madagascer). - JERDON, Madras Journ. Lit. Sci., p. 149, 1849. - BLEEKER, Verh. Batavia. Genoot. (Nal. Ichth. Bengal), vol. 25, p. (52) 105, 1853 (Calcutta; Padang); Nat. Tyds. Ned. Indie, vol. 7, p. 313, 1854 (Tjiringin, Perdana); vol. 9, p. 192, 1855 (Batjan); vol. 11, p. 253, 1856 (Laboeha, Batjan); Act. Soc. Sci. Ind. Neerl., No. 3, vol. 1, p. 5, 1856 (Manado); Verh. Batavia. Genoot. (Nal. Ichth. Japan), vol. 26, pl. 1, fig. 3, 1857.

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Eleotris mauritianus BENNETT, Proc. Comm. Zool. Soc. London, vol. 1, p. 166, 1831 (type locality, Mauritius).

Eleotris brachyurus BLEEKER, Verh. Batavia. Genoot. (Blenn. Gobioid), vol. 22, p. 20, 1849 (type locality, Patjitan, South Java); (Midd. Oost-Java) vol. 23, p. 9, 1850; (Bengal. Hind.) vol. 25, p. 106, 1853.

Eleotris melanurus BLEEKER, op. cit., p. 21, 1849 (type locality, Pasuruan, South Java); (Midd. Oost-Java) vol. 23, p. 9, 1853.

Eleotris psendacanthopomus BLEEKER, Nat. Tyds. Ned. Indië, vol. 4, p. 276, 1853 (type locality, West Sumatra); Verh. Batavia Genoots. (Beng. Hind.), vol. 25, p. 106, 1853.

Culius psendacanthopomus BLEEKER, Act. Soc. Sci. Ind. Neerl. (Acht. Sumatra), vol. 8, p. 41, Feb.-Aug. 1859 (reference).

Eleotris incerta BLYTH, Journ. Asiatic Soc. Bengal, vol. , p. 146, 1860 (type locality,). - DAY, Proc. Zool. Soc. London, p. 517, 1869.

Eleotris soaresi PLAYFAIR, Fishes of Zanzibar, p. 74, pl. 9, fig. 4, 1866 (type locality, Mozambique).

Eleotris (Culius) vitianus SAUVAGE, Bull. Soc. Philomath, Paris, ser. 7, vol. 4, p. 56, 1879 (type locality, Fiji).

Depth 4 1/4 to 6; head 2 3/4 to 3, width 1 to 1 1/4. Snout 3 1/4 to 4 7/8 in head from snout tip; eye 3 7/8 to 8 3/4, 1 1/5 to 1 2/5 in snout, 1 4/5 to 2 in interorbital; maxillary reaches eye or 1/2 in eye, length 2 1/4 to 2 2/3 in head from snout tip; teeth minute, conic, sharp pointed, in bands of several irregular rows in jaws, outer upper widely spaced and enlarged; interorbital 3 3/4 to 5, depressed. Groove behind interorbital and postocular back above opercle to pectoral base.

Scales 57 to 62 in median lateral series to caudal base; 21 or 22 transversely, 47 to 50 predorsal. Many transverse lines of pores across snout, 8 from lower eye edge and horizontal line from above maxillary end; many transverse rows of pores or papillae across amndible, all less prominent in large specimens. Scales with 16 to 19 basal radiating striae; 25 to 30--24 to 29 imbedded apical denticles; circuli minutely irregular. Scales on predorsal and front of back more or less cycloid, sometimes absent from snout and interorbital anteriorly; often more or less cycloid on chest, breast, basal regions about pectorals and on opercles.

D. VI—I, 8,i or 9,i, third spine 2 7/8 in total head length, second ray 2; A. I, 8,i or 9, i, fourth ray 2; caudal 1 1/8 to 1 1/4; least depth of caudal peduncle 2 3/4; pectoral 1 1/2; ventral 1 2/3.

Light brown to dark gray or blackish. Sometimes each scale on side of body with blackish spot, ill defined and forming longitudinal rows. Iris brown. Fins gray, with dark or grey black cross lines, usually absent from ventrals.

Zanzibar, Mozambique, Natal, Mauritius, Madagascar, India, Ceylon, Nicobars, Malaya, East Indies, Philippines, Siam, China, Riu Kiu, Queensland, Melanesia, Micronesia, Polynesia, Hawaii.

Four examples. Baganga River, Mindanao. May 13, 1908. Length 36 to 67 mm. Scales 42 + 4.

Twelve examples. Batangas, Batangas River, Luzon. June 7, 1908. Length 21 to 73 mm. Scales 54 + 3.

Three examples. Cabugao River, Catanduanes Island. June 9, 1909. Length 45 to 129 mm. Scales 50 + 5.

Seven examples. Calugan River, 3 miles from mouth near Paluan Bay, Mindoro. December 11, 1908. Length 34 to 98 mm.

Six examples. Cascade River, Murcielagos Bay, Mindanao. August 20, 1909. Length 45 to 112 mm. Scales 55 + 5.

Three examples. Dumaca River, Luzon. February 25, 1909. Length 76 to 123 mm. Scales 50 + 7.

Three examples. Iloilo market, Panay. June 1, 1908. Length 48 to 94 mm. Scales 52 + 5.

22087. Isabela River, Basilan Island. September 11, 1909. Length 152 mm.

Fifteen examples. Iwahig River and tributaries, Puerta Princessa, Palawan. April 4, 1909. Length 32 to 102 mm. Scales 44 to 48 + 8.

7269. Eight examples. Maagnas stream, Lagonay Gulf, Luzon. June 17, 1909. Length 70 to 122 mm. 1669, 1670. Scales 51 + 5 or 6.

17210. Six examples. Mahinog, Camiguin Island, brackish water. August 3, 1909. Length 43 to 193 mm. Scales 42 to 52 + 5 to 7.

Seven examples. Malabang River, spring at source. May 21, 1908. Length 21 to 53 mm. Scales 42 + 5.

9836. Malaga River, Hinunangan Bay, Leyte. July 30, 1909. Length 49 to 147 mm. Five examples. Scales 42 + 4.

Two examples. Mananga River, Cebu. August 25, 1909. Length 39 to 42 mm.

Six examples. Mati, small stream, Mindanao. May 15, 1908. Length 43 to 79 mm. Scales 47 + 7.

Eleven examples. Nonucan River, Camp Overton, Mindanao. August 6, 1909. Length 44 to 185 mm. Scales 43 to 45 + 8.

One example. Paluan River, Nundoro. December 11, 1900. Length 74 mm.

20995, 20996, 20997. Pancol, creek at Spaniard's Hacienda below, Malampaya Island, Palawan. December 26, 1908. Length 75 to 119 mm.

Two examples. Pangauron River, Port Caltom. December 16, 1908. Length 75 to 88 mm. Scales 44 + 5.

One example. Pasacao river. March 9, 1909. Length 94 mm. Scales 43 + 5.

Four examples. Port Dupon. Leyte. March 17, 1909. Length 14 to 45 mm.

Three examples. Zamboanga River. October 9, 1909. Length 79 to 105 mm.

18137. Amboina stream, Dutch East Indies. December 5, 1909. Length 103 mm.

One example. Limbe Strait, Celebes. November 12, 1909. Length 66 mm. Scales 55 + 4.

20339, 20340. Soo Wan stream, below Hokuko, Formosa. January 29, 1910. Length 88 to 110 mm.

21214. Uki River, Boero Island, Dutch East Indies. December 9, 1909. Length 132 mm.

Two examples. Putoc River, back water ponds, Mariveles. January 30, 1909. Length 55 to 72 mm. Scales 44 + 6.

Three examples. Ragay River, Ragay Gulf, Luzon. March 10, 1909. Length 75 to 85 mm. Scales 53 + 5.

9549. Four examples. Santiago River, Pagapas Bay, Luzon. February 20, 1909. Length 32 to 214 mm. Scales 40 + 4.

19632. Tayabas River near mouth. February 25, 1909. Length 63 mm.

One example. Tilig, river, Lubang. July 14, 1909. Length 68 mm. Scales 48 + 4.

Three examples. Varadero Bay, small creek, Mindoro. October 27, 1909. Length 44 to 66 mm. Scales 47 + 5.

Four examples. Vigo River near Tilig Harbor, Lubang Island. July 15, 1908. Length 60 to 108 mm. Scales 45 + 5.

18812. Six examples. Yaua River, Legaspi. June 7, 1909. Length 29 to 190 mm. Scales 51 + 4.

Three examples. Youi River, Tayabas. February 25, 1909. Length 41 to 77 mm. Scales 43 + 5.

U.S.N.M., no. 89772. Fatu Hiva, Marquesas Islands, in fresh water stream. September 14, 1929. G.B. Pinchot Expedition. Length 62 to 96 mm. Four examples.

U.S.N.M., no. 89773. Hiva Oa, Marquesas Islands. September 13, 1929. G.B. Pinchot Expedition. Length 175 mm.

U.S.N.M., no. 102645. Garo River, Panay Island, Philippines. April 2, 1929. Lieut. H.C. Kellers. Length 71 to 121 mm. Two examples.

U.S.N.M., no. 102647. Garo River, Panay Island. April 25, 1929. Lieut. H.C. Kellers. Length 59 to 84 mm. Four examples.

U.S.N.M., no. 5703. Bonin Islands. William Stimpson. North Pacific Expl. Exped. Length 105 to 108 mm. Two examples.

U.S.N.M., no. 85997. China. A. de C. Sowerby. Length 75 mm. Preopercle with spine at angle directed forward.

U.S.N.M., no. 86388. China. A. de C Sowerby. Length 125 mm.

U.S.N.M., no. 19969. Mauritius. Col. Nicholas Pike. Length 146 mm.

U.S.N.M., no. 28523. Madagascar. Mus. Hist. Nat. Paris. Length 125 mm.

U.S.N.M., no. 52217. Apia, Samoa. Bureau of Fisheries. Length 95 to 160 mm. Six examples.

U.S.N.M., no. 72184. Aparri, Philippines. R.C. Mc Gregor. Length 87 to 88 mm. Two examples.

U.S.N.M., no. 87620. Tahiti, Society Islands. J.M. Clements. June 15, 1925. Length 91 to 161 mm. Nine examples. From pools in basalt headwaters east of mouth, Mah. district, about 34 kilometers east of Papeete on north coast of Tahiti. The oopu is a rock climbing fish.

U.S.N.M., no. 87619. Tahiti. J.M. Clements. Length 138 to 165 mm. Three examples.

U.S.N.M., no. 87951. Benkoelen, Sumatra. November 1925. Lieut. H.C. Kellers. Length 56 to 60 mm. Two examples.

U.S.N.M., no. 87952. Benkoelen, Sumatra. December 19, 1925. Lieut. H.C. Kellers. Length 48 mm.

U.S.N.M., no. 89052. Tahiti. J.M. Clements. Length 66 to 125 mm. 1928. Two examples.

Eleotris gyrinoides Bleeker

Eleotris gyrinoides BLEEKER, Nat. Tyds. Ned. Indié, vol. 4, p. 272, 1853 (type locality, Benculen and Priaman); Verh. Batavia. Genoot. (Beng. Hind.), vol. 25, p. 105, 1853 (reference); Nat. Tyds. Ned. Indié, vol. 9, p. 284, 1855 (Suwangan, Celebes); Act. Soc. Sci. Ind. Neerl. (Acht. Sumatra), vol. 8, p. 40, 1860 (Benculen, Sumatra); (Celebes) vol. 8, p. 44, 1860 (Celebes). - GÜNTHER, Cat. Fish. Brit. Mus., vol. 3, p. 123, 1861 (copied).- BLEEKER, Verslag. Kon. Akad. Wet. Amsterdam, ser. 2, vol. 2, p. 19, 1877 (Sumatra; Celebes). - GÜNTHER, Journ. Mus. Godeffroy, vol. 6, pt. 11, p. 188, 1877 (Pelew Islands). - SCHMELTZ, Cat. Mus. Godeffroy, No. 8, p. 6, 1881 (Ponape).- PÖHL, Cat. Mus. Godeffroy, No. 9, p. 33, 1884 (Ponape). - RAMSAY and OGILBY, Proc. Linn. Soc. New South Wales, ser. 2, vol. 1, p. 8, 1886 (Strickland River, New Guinea). - WEBER, Nova Guinea, vol. 5, pt. 2, p. 254, 1908 (Mosa and Tawarin River, North New Guinea). - BEAUFORT, Bydr. Dierk. Amsterdam, vol. 19, p. 135, 1913 (Waisa, Waigiu).

Guavina gyrinoides JORDAN and SEALE, Bull. Bur. Fisher., vol. 25, p. 284, 1905 (1906) (reference). - FOWLER, Mem. Bishop Mus., vol. 10, p.

389, 1928 (Kusai, Carolines); vol. 11, No. 5, p. 360, 1931 (reference);

vol. 11, No. 6, p. 441, 1934 (Strickland River, New Guinea).

Depth 4 1/2; head 3, width 1 1/3. Snout 4 2/3 in head from snout tip; eye 7 1/3, 1 1/2 in snout, 2 in interorbital; maxillary reaches 1/2 in eye, expansion 2 1/2,length 2 1/2 in head from snout tip; teeth in broad villiform bands in jaws, none on palate; tongue convexly rounded in front; interorbital 3 3/4, level. Gill rakers 3+9, tubercles, half of gill filaments, which 1 1/5 in eye.

Scales 54 in median lateral series to caudal base; 18 transversely at soft dorsal origin; 38 predorsal. Muzzle naked, rest of head scaly.Caudal and paired fins with small scales crowded basally. Anteriorly on body scales all cycloid. Cheek with 3 horizontal grooves over which scales do not pass. Scales with 32 to 35 basal radiating striae; apical denticles 36; circuli fine, irregular.

D. VI+I,8,i, third spine 2 4/5 in total head length, seventh ray 2 1/2; A. i,8,i, seventh branched ray 2 1/8; caudal 1 1/3, rounded behind; least depth of caudal peduncle 2 1/2; pectoral 1 2/3; ventral 1 3/5.

Dark brownish, mottled with paler and dusky. Under surface of head brown with white markings, marblings, short streaks or spots, especially on branchiostegal region.Fins all dusky, with more or less blackish generally and marbled or spotted with whitish. Anal with especially prominent whitish spots.

East Indies, Micronesia.

Eleotris fusca (Schneider)

Seven examples. Calumagen River, 3 miles from mouth near Paluan Bay, Mindoro. December 11, 1908. Length 34 to 98 mm.

Two examples. Inanunga River, Cebu. August 25, 1909. Length 39 to 42 mm.

Eleotris herwerdenii Weber

Eleotris herwerdenii WEBER, Notes Leyden Mus., vol. 32, pt. 4, p. 238, 1910 (type locality, Lorentz River, New Guinea). - HASE, Jena. Zeitschr. Nat., vol. 51, p. 537, 1914 (Tami, Kaiser - Wilhelm's Land, New Guinea). - FOWLER, Mem. Bishop Mus., vol. 10, p. 393, 1928 (compiled).

Eleotris herwerdeni WEBER, Nova Guinea, vol. 9, pt. 4, p. 594, pl. 13, fig. 2, pl. 14, fig. 2, 1913 (Varen River; Lorentz River).

Depth 5 to 5 1/5; head 2 7/10 to 2 4/5. Snout 4¾ to 5 1/8 in head from snout tip; eye 6 to 8, 1¼ to 1 7/8 in snout, more than 2 in interorbital, and impinge on upper profile of head; maxillary extends 2/5 to ½ in eye, length 3 1/8 in head from snout tip; lower jaw well protruded in front; equally fine teeth in bands in jaws; front nostril tubular, at lip edge, hind nostril close before eye.

Scales 62 to 70 in lateral series; 22 transversely between second dorsal and anal; 35 to 40 predorsal forward to eyes. Body scales ctenoid, anteriorly smaller, on neck, head and belly cycloid, with 14 rows of rounded scales on opercle and larger than on preopercle and cheek. Snout naked before hind nostril.

D. VI - I, 9 , third spine 3 to 4 1/10 in total head length, first branched ray 3 to 3¼, eighth branched ray 2 3/5 to 3; A. I, 8, first branched ray 3½ to 3 7/8, seventh 3¼ to 3 1/3; caudal 1 2/5 to 1½, convex behind; least depth of caudal peduncle 3 to 3 1/8; pectoral 1 2/3 to 2, rays 17; ventral length 2 to 2 1/8 in total head length. Anal papilla broad, pressed down, rounded.

Back dark brown, belly pale yellowish with dark longitudinal lines marking scale rows. From side of muzzle broad dark band back to caudal base, with light spot below above maxillary and another at middle of caudal base. Caudal blackish, with indication of spots and bands. Other fins clear, with slightly dark spots on spines and rays.

Length 165 to 218 mm. (Weber)

New Guinea.

Eleotris huttoni Ogilby

Eleotris huttoni Ogilby, Proc. Linn. Soc. New South Wales, ser. 2, vol.9, p. 369, 1894 (1895) (type locality, Waikato River, New Zealand). - WAITE, Records Canterbury Mus., vol. 1, No. 1, p. 27, April 25, 1907 (reference).

Depth 6 7/10 in total length; head 4¼, width 1½. Snout short, obtusely rounded, 4/5 of eye; eye 3 4/5 in head; maxillary scarcely reaches front eye edge; jaws equal, mouth cleft very oblique; jaws with band of small hooked teeth, outer row much enlarged; interorbital narrow, concave, width less than 1/3 of eye; upper profile of head very slightly convex.

Scales 37 in lateral series; 9 transversely. Scales on body strongly ctenoid; on occiput and opercle cycloid, rest of head scaleless. Occipital scales not reaching to between hind edges of orbits, preceded by closed pore. Three series of scales between dorsals. Head without open pores or distinct series of warts.

D. VI - I, 8, spines weak, 4/7 of body height, much lower than rays which longest posteriorly; A. I, 9, begins below third dorsal ray and continued some distance behind second dorsal base; caudal rounded, 5 1/3 in total length; pectoral rays 19, subcuneiform, not quite long as head; ventral rays I, 5, fin moderate, not reaching vent, 2/3 length of head. Anal papilla moderate.

Uniform brownish. Vertical fins hyaline; upper half of first dorsal brownish orange; second dorsal with 2 or 3 irregular series of spots on outer half; front anal rays brownish. Other fins pale brown.

Length 65 mm. (Ogilby.)

New Zealand. Ogilby says it differs in fewer dorsal rays from Eleotris gobioides Valenciennes, fewer transverse scales between soft dorsal and anal, much lower body, smaller head, greatly enlarged eye and subequal jaws.

Eleotris insulindicus (Bleeker)

Culius insulindicus BLEEKER, Arch. Néerl. Sci. Nat. Harlem, vol. 10, p. 107, 1875 (type locality, Sumatra; Singapore; Buru; Amboina; Timor); Verslag, Kon. Akad. Wet. Amsterdam, ser. 2, vol. 11, p. 48 , 1877 (above localities).

Eleotris insulindicus FOWLER, List Malaya Fishes, p. 209, 1938 (Singapore).

Depth 6 to 7; head 4, width 1 3/5 to 1¾. Snout acute; eye 5 to 6 in head, 1 to 1 1/3 in interorbital; upper jaw shorter, end before eye slightly superior; upper teeth pluriserial, acute, small, outer row little enlarged, likewise lower anterior row and inner posterior row; preopercular spine acute, curved.

Scales 50 in lateral series; 11 or 12 transversely, 40 predorsal. Subocular region scaleless. Cheeks, preopercle and opercle with small scales, 15 in longitudinal series on opercle, strongly deciduous on cheek and preopercle. Scales on head, nape, chest, breast and belly cycloid, posteriorly ctenoid. Interocular, occipital and nuchal scales conspicuously small, on sides of tail enlarged, on middle of sides less so.

D. VI - I, 8 or 9, second to fourth spines longest, rays higher though lower than body depth, soft fin obtuse; A. I, 8 or 9, like second dorsal; caudal longer than head without snout, obtusely rounded; pectoral rays 16 or 17, obtusely rounded, longer than head without snout; ventral rays I, 5, shorter than pectoral.

Above brownish, brownish green or rose green, below paler or rose golden. Iris green, pupil edged golden. Fin membranes clear violaceous or brown, rays golden. First dorsal with 2 or 3 longitudinal brown bands. Second dorsal, caudal and pectoral variegated with brown, with dark longitudinal lines on soft dorsal and transverse dark lines on caudal and pectoral. Pectoral base above frequently with brown or red spot.

Length 62 to 114 mm. (Bleeker.)

East Indies, Malaya. Bleeker separated it from Culius oxycephalus, Culius melanosoma and Culius macrocephalus in the presence of 11 or12 scales transversely between the second dorsal and anal fins (14 or 15 in the species named).

Eleotris litoralis Day

Eleotris litoralis DAY, Fishes of India, pt. 3, p. 314, 1877 (type locality, Andamans); Fauna of British India, Fishes, vol. 2, p. 295, 1889.

Depth 5; head 3¾, width equals head behind eye. Snout slightly elevated; eye 3¾ in head, 1 1/3 in snout, 1 1/3 in interorbital; maxillary reaches ½ in eye; mouth rather oblique, begins opposite upper eye edge, lower jaw longer; teeth in numerous closely set villiform rows in both jaws, inner slightly larger; anterior nostril tubular; upper surface of head nearly flat; no serrated ridge on head or preopercular spine.

Scales 35 in lateral series; 11 transversely; 30 predorsal forward to snout. Scales ctenoid on body, predorsal not much smaller than on body, 8 between posterior ends of second dorsal and anal transversely. Large scales on cheek and opercle, and 7 across interorbital.

D. VI - I, 8, spines weak and extend slightly beyond membrane, 2/3 body depth and equal hind rays of second dorsal; A. I, 7, caudal wedge shaped; pectoral rays 15, long as head behind middle of eye; ventral rays I, 5, little shorter than pectoral and extends over half way to anal base.

Brownish, marbled with darker. Fins very dark due to fine black dots, and 3 or 4 bars of spots on dorsal spines and rays. Anal with black band along center and an external white edge. Caudal blackish.

Length little over 75 mm. (Day.)

Andaman Islands.

Eleotris lutea Day

Eleotris lutea DAY, Fishes of India, pt. 3, p. 314, 1877 (type locality, Andamans); Fauna of British India, Fishes, vol. 2, p. 294, 1889.

Depth 4; head 3½, width equals length behind eyes. Snout slightly elevated; eye 4 in head, 1 1/3 in snout, 1 1/3 in interorbital; maxillary reaches ½ in eye; mouth cleft oblique, begins opposite upper eye edge; teeth in numerous villiform rows, outer upper rather enlarged, also few anterior lower and literally inner row enlarged; front nostril tubular; upper surface of head and interorbital flattened; spine directed downward at preopercle angle.

Scales 50 in lateral series; 12 transversely; 23 predorsal not extending forwards to eye and none on sides of head. Scales on body ctenoid.

D. VI - I, 8, first spines with filamentous ends extending short space beyond membranes, fin height half body depth, second dorsal highest anteriorly or equals 2/3 body depth and similar to anal; A. I, 8; caudal wedge shaped; pectoral rays 15, long as head without snout; ventral rays I, 5, long as pectoral.

Dirty grayish, with vertical bands most distinct in posterior half of body. Many dark spots on head. Dorsals and anals with bands of black spots. Caudal nearly black and slightly reticulated. (Day.)

Andaman Islands. Length not given. Day says it differs from Eleotris fusca in the fewer number of scales on the body, scaleless head, and lesser width of interorbital space.

Eleotris macrolepis (Bleeker)

Culius macrolepis BLEEKER, Arch. Néerl. Sci. Nat. Harlem, vol. 10, p. 109, 1875 (type locality, Amboina); Verslag. Kon. Akad. Wet. Amsterdam, ser. 2, vol. 11, p. 50, 1877 (Amboina).

Eleotris (Culius) macrolepis WEBER, Nova Guinea, vol. 5, pt. 2. p. 257, 1908 (Klipong River, north New Guinea).

Eleotris macrolepis WEBER, Nova Guinea, vol. 9, pt. 4, p. 597, 1913 (Humboldt Bay). - FOWLER, Mem. Bishop Mus., vol. 10, p. 393, 1928 (compiled).

Depth 5; head 4, width 1 2/5 to 1½. Snout convex, not longer than eye; eye 5 to 5½ in head, 1½ in interorbital; maxillary extends partly below eye; mouth begins level with upper part of eye; upper teeth pluriserial, small, acute, outer row little enlarged, and lower with both outer and inner rows little enlarged; cheek with 2 longitudinal grooves and united by 3 to 5 transverse crests; preopercular spine curved.

Scales 42 to 45 in lateral series; 11 to 12 transversely between soft dorsal and anal; 40 predorsal forward to snout. Cheek posteriorly, preopercle and opercle scaly, smaller scales on cheek and preopercle. Interorbital, occipital and nuchal scales small. Scales on caudal and anteriorly on body little or not smaller than others.

D. VI - I, 8 or 9, second to fourth spines longest, obtuse, over twice in body depth; soft dorsal higher than first dorsal, lower than body depth, angulate behind; A. I, 8 or 9, like second dorsal; caudal obtusely rounded, longer than head without snout; pectoral rays 15 or 16, obtusely rounded, longer than head without snout; ventral rays I, 5, little shorter than pectoral. Anal papilla compressed, oblong, elongate.

Body above reddish or brownish green, below greenish-golden. Iris green, pupil edged golden. Fin membranes brownish, purplish or clear

violaceous, rays golden. Spinous dorsal with 2 longitudinal brown bands. Soft dorsal and caudal variegated with small brown spots, on dorsal form longitudinal bands and on caudal transverse bands.

Pectoral with brown or reddish basal spot.

Length 70 to 81 mm. (Bleeker.)

East Indies. Bleeker says it is easily known by the large scales on the trunk. From Culius insulindicus Bleeker it differs in a deeper body and fewer scales in a lateral series.

Eleotris melbournensis (Sauvage)

Eleotris (Eleotriodes) melbournensis SAUVAGE, Bull. Soc. Philom. Paris, ser. 7, vol. 4, p. 57, 1880 (type locality, Melbourne, Victoria).

Eleotris melbournensis MC CULLOCH and OGILBY, Rec. Austral. Mus., vol. 12, No. 10, p. 270, July 14, 1919 (reference). - MC CULLOCH, Mem. Austral. Mus., vol. 5, pt. 3, p. 361, Nov. 28, 1929 (reference).

Depth little over 7 in total length; head 3 2/3. Snout depressed, longer than eye; eye 4½ in head; maxillary extends opposite hind eye edge; lower jaw longer than upper; teeth weak, in broad band in each jaw, without canines; palate toothless; interorbital nearly twice broader than eye; no preopercular spine.

Scales 55 in lateral series; 16 transversely between second dorsal and anal. Scales on front part of body much smaller than those on posterior portions. Head entirely naked.

D. VII - I, 9, fins separated by narrow interval; A. I, 9; ventrals short.

Length 100 mm. (Sauvage).

Victoria, Australia.

Eleotris oxycephala Schlegel

Eleotris oxycephala SCHLEGEL, Fauna Japonica, Poiss., pts. 7-9, p. 150, pl. 77, figs. 4-5, 1845 (type locality, Les mers du Japan [collection Burger]). - BLEEKER, Verh. Batavia. Genoot. (Nal. Ichth. Japan), vol. 25, p. 16, 1853 (reference). - GÜNTHER, Cat. Fish. Brit. Mus., vol. 3, p. 115, 1861 (China). - KÁROLI, Termesz. Füzetek, Budapest, vol. 5, p. 167, 1881 (1882) (Canton). - ELERA, Cat. Fauna Filipinas, vol. 1, p. 524, 1895 (Luzon; Cavite). - JORDAN and SNYDER, Proc. U.S. Nat. Mus., vol. 23, p. 371, 1900 (Lake Biwa); vol. 24, p. 46, 1901 (Yokohama; Haneda; Wakanoura; Lake Biwa). - FRANZ, Abhandl. Kon. Bayer. Akad. Wiss., Suppl. Band, vol. 1, p. 66, 1910 (Fukuura; Misaki). - JORDAN, TANAKA, SNYDER, Journ. College Sci. Tokyo, vol. 33, art. 1, p. 339, 1913 (reference). - CHU, Biol. Bull. St. John's Univ., No. 1, p. 158, Jan. 1931 (reference).

Eleotris pisonis oxycephala TOMIYAMA, Jap. Journ. Zool., vol. 7, No. 1, p. 41, 1936 (Watarase River, south to Ryukyu and Formosa; Foochow; Swatow.)

Eleotris oxycephalus BLEEKER, Ned. Tyds. Dierk., vol. 4, p. 128, 1873 (1874) (reference). - MC CULLOCH, Mem. Australian Mus., vol. 5, pt. 3,

p. 362, Nov. 28, 1929 (reference).

Eleotris oxycephale JORDAN and SNYDER, Annot. Zool. Japan., vol. 3, p. 112, 1901 (L. Biwa; Kurimoto; Nagasaki).

Culius oxycephalus BLEEKER, Arch. Neerl. Sci. Nat. Harlem, vol. 10, p. 105, 1875 (reference); Verslag, Kon. Akad. Wet. Amsterdam, ser. 2, vol. 11, p. 47, 1877 (Java); Verh. Kon. Akad. Wet. Amsterdam, vol. 18, p. 19, 1879 (reference).

Eleotris cantherius RICHARDSON, Ichth. China and Japan, p. 209, 1846 (type locality, Macao).

Eleotris melanosoma BLEEKER, Nat. Tyds. Ned. Indie, vol. 3, p. (690) 705, 1852 (type locality, Wahai, west Ceram); vol. 6, p. 517, 1854 (Oelakan, west Sumatra). - GÜNTHER, Cat. Fish. Brit. Mus., vol. 3, p. 126, 1861 (no locality). - SCHMELTZ, Cat. Mus. Godeffroy, No. 3, p. 9, 1866 (Samoa). - STEINDACHNER, Sitzs. Ber. Akad. Wiss. Wien, vol. 55, pt. 1, p. 592, 1867 (Ningpo). - SCHMELTZ, op. cit. No. 7, p. 47, 1879 (Samoa). - PÖHL, Cat. Mus. Godeffroy, No. 9, p. 33, 1884 (Samoa). - WEBER, Nova Guinea, vol. 9, pt. 4, p. 597, 1913 (Fate; Humboldt Bay). - WEBER and BEAUFORT, Nova Caledonia, Sarasin and Roux, Zool., vol. 2, pt. 1, p. 33, 1915 (Oubatche). - HERRE, Gobies of Philippines, p. 33, 1927 (Laoag River;

Abra River; Agno River; Buguey; Kabulig River; Malabon; Puerto Galera; Naganahau River; Iloilo; Navalas; Hong Kong; Bangar). - FOWLER, Mem. Bishop Mus., vol. 10, p. 393, 1928 (compiled); vol. 11, No. 5, p. 361, 1931 (reference). - HERRE, Journ. Pan-Pac. Res. Inst., vol. 6, No. 4, p. 9, Oct.- Dec. 1931 (Auki fresh water, Solomons), p. 13 (New Hebrides fresh water). - FOWLER, Mem. Bishop Mus., vol. 11, No. 6, p. 441, 1934 (reference).- HERRE, Fishes Herre 1931 Philippine Exped., p. 80, 1934 (Curimao; Los Banos; Lemery; Culion; Dumaguete). - ROXAS and MARTIN, Dep. Agric. Comm. Manila, Tech. Bull. 6, p. 219, 1937 (reference). - FOWLER, ~~Cat.~~ List of Malaya Fishes, p. 209, 1937 (Singapore).

— Giltay, Mém. Mus. Roy. Hist. Nat. Belg., hors ser., vol. 5, fasc. 3, p. 91, April 30, 1933 (Tangkit, Bali).

Eleotris (Culius) melanosoma BEAUFORT, Bijdr. Dierk. Amsterdam, vol. 19, p. 136, 1936 (Humboldt Bay; Nibai River).

Eleotris oxycephala melanosoma TOMIYAMA Jap. Journ. Zool., vol. 7, No. 1, pp. 41, 42 (Koti; Formosa; East Indies; South China).

Culius melanosoma BLEEKER, Nat. Tyds. Ned. Indië, vol. 11, p. 412, 1856 (Boero); vol. 13, p. 385, 1857 (Batjan); Act. Soc. Sci. Ind. Neerl. (Acht. Sumatra), vol. 8, p. 41, Feb.-Aug. 1859 (Benkulen; Padang; Ulakan; Priaman); Ned. Tyds. Dierk., vol. 1, p. 264, 1863 (Atapupu, Timor); Verslag. Kon. Akad. Wet. Amsterdam, ser. 2, vol. 11, p. 43, 1877 (Sumatra; Singapore; Borneo; Celebes; Batjan; Amboina; Ceram; Buru; Timor).

Eleotris acanthopomus BLEEKER, Nat. Tyds. Ned. Indie", vol. 4, p. 275, 1853 (type locality, West Sumatra).

Culius acanthopomus Bleeker, op. cit., vol. 11, pp. 411, 412, 1856 ( ); Act. Soc. Sci. Ind. Neerl. (Acht. Sumatra), vol. 8, p. 41, Feb.-Aug. 1859 (Priaman).

Culius macrocephalus BLEEKER, Nat. Tyds. Ned. Indie", vol. 13, p. (57) 70, 1857 (type locality, Kajeli, Buru); Verslag. Kon. Akad. Wet. Amsterdam, ser. 2, vol. 11, p. 45, 1877 (reference).

Eleotris macrocephalus WEBER, Nova Guinea, vol. 9, pt. 4, p. 597, 1913 (Humboldt Bay; Mbai River). - WEBER and BEAUFORT, Nova Caledonia, Sarasin and Roux, Zool., vol. 2, pt. 1, p. 33, 1915 (La Foa). - FOWLER, Mem. Bishop Mus., vol. 10, p. 393, 1928 (compiled).

Eleotris balia JORDAN and SEALE, Proc. U.S. Nat. Mus., vol. 29 , p. 526, fig. 6, 1905 (type locality, China, probably from Hong Kong).

Eleotris fortis TANAKA, Fishes of Japan, vol. 6, p. 106, pl. 27, figs. 108 and 109, pl. 28, fig. 113, 1912 (type locality, northern Formosa).

Eleotris oxycephala tanakae TOMIYAMA, Jap. Journ. Zool., vol. 7, No. 1, pp. 41, 42, 1936 (type locality, Siduoka-ken to Kagosima-ken, Japan)..

Depth 4¼ to 5½; head 3, width 1¾ to 2 1/8. Snout 4 to 4 2/5 in head from snout tip; eye 4½ to 7 1/8, 1 to 1¾ in snout, 1 to 1 7/8 in interorbital; maxillary reaches 1/5 to ½ in eye, length 2 4/5 to 3 in head from snout tip; teeth finely villiform in jaws, sometimes outer lower row little enlarged, wide set and strong, band above often little broader than lower; palate toothless; front end of tongue convex; interorbital 3¾ to 4, low, depressed or very slightly convex; preopercle with strong, short, vertical spine directed downward. Gill rakers 2 to 5 + 9 or 10, low, finely spinescent tubercles, 1/3 to ½ of gill filaments, which 7/8 of eye.

Scales 42 to 45 + 6 to 8 in axial lateral series; 15 or 16 transversely above anal origin; 42 to 46 predorsal forward to front end of snout. Head scaly, except most of muzzle and branchiostegal region. Small scales crowded on prepectoral region, chest and caudal base. Row of small papillae over each eye, with short branch invading interorbital; postocular line to suprascapula; 2 horizontal rows on cheek, with 5 branches from lower eye edge down and crossing lines on head; line along each mandibular ramus below and on preopercular flange. Scales with 15 to 20 basal radiating striae; row of 41 to 52 slender apical denticles; circuli moderate.

D. VI - I, 8, i, third spine 2 1/5 to 2 2/3 in total head length, first branched ray 2¾ to 2 4/5; A. I, 8, i, third branched ray 2 2/5 to 2½; caudal 1 1/3 to 1½, pointed behind; least depth of caudal peduncle 2½ to 2 4/5; pectoral 1 2/5 to 1¾, rays 17; ventral rays I, 5, fin 1 2/3 to 2 in total head length. Anal papilla flattened flap 1 1/3 in eye.

Brown, each scale with pale spot so longitudinal dark lines form due to junctures above and below, on sides of body. Under surface of head, belly and tail below with minute, close set, dark brown dots. Sometimes

wide dark or blackish brown lateral band, formed with variable small and still darker or blackish rounded spots, extends from pectoral axil to bases of upper and superomedian caudal rays. Blackish brown narrow band or line on side of snout and over postocular to suprascapula; another, little inclined from lower hind eye edge to upper horizontal line of papillae. Iris gray brown. Spinous dorsal brown to transparent, with margin and median band whitish, or with 4 horizontal brown bands. Soft dorsal whitish or transparent with 4 or 5 dark brown horizontal bands, edge of each little darker or as dark line. Anal similar. Caudal with 7 brown cross bands, each edged with darker line. Pectoral pale, with about dozen irregular transverse bands. Ventral with transverse brown bands.

East Indies, China, Formosa, Riu Kiu, Japan.

U.S.N.M., No. 49952. Wakanoura, Japan. Length 45 mm. Jordan and Snyder.

U.S.N.M., No. 52082. Probably Hong Kong, China. P.L. Jouy. Length 138 mm. Type of Eleotris balia.

U.S.N.M., No. 57573. Japan. P.L. Jouy. Length 130 mm.

U.S.N.M., No. 71474. Tanegashima Island, Japan. Albatross Collection 1906. Length 36 mm.

Eleotris pallida Castelnau

Eleotris pallida CASTELNAU, Victor. Offic. Rec. Philadelphia Exhib. (Res. Fish. Austral.), p. 24, 1875 (type locality, Cape York). - MACLEAY, Proc. Linn. Soc. New South Wales, vol. 5, pt. 4, p. 621, 1881 (copied). - MC CULLOCH and OGILBY, Rec. Austral. Mus., vol. 12, No. 10, p. 270, July 17, 1919 (reference).

McCulloch and Whitley, Mem. Queensland Mus., vol. 8, pt. 2, p. 169, July 7, 1925 (reference).

Eleotris pallidus MC CULLOCH, Mem. Austral. Mus., No. 5, pt. 3, p. 361, Nov. 28, 1929 (reference).

Depth $3\frac{3}{4}$; head 3. Eyes small. Lower jaw much longer than upper. Scales large, 32 in lateral series. Dorsal VII - . Color olive yellow, with very faint blotch at root of tail. Head with 3 faint, obscure bands from eye to opercle. Fins transparent. Caudal with transverse lines of black dots.

Length 87 mm. (Macleay)

Queensland. An imperfectly known nominal species.

Eleotris planiceps Castelnau

Eleotris planiceps CASTELNAU, Proc. Linn. Soc. New South Wales, vol. 3, pt. 1, p. 49, Sep. 1878 (type locality, Norman River, Gulf of Carpentaria). - MACLEAY, Proc. Linn. Soc. New South Wales, vol. 5, pt. 4, p. 621, 1881 (reference). - MC CULLOCH and OGILBY, Rec. Austral. Mus., vol. 12, No. 10, p. 270, July 14, 1919 (reference). - MC CULLOCH, Mem. Austral. Mus., vol. 5, pt. 3, p. 361, Nov. 28, 1929 (reference).

Depth 3 2/3; body very convex, tail long; head very flat. Snout broad and flat; eye nearly 6 in head; maxillary extends nearly to vertical from hind eye edge; lower jaw rather prominent; teeth villiform, in broad bands on both jaws.

Scales 33 in lateral series; 8 scales between first dorsal origin and anal. Head covered with minute scales, except on snout. Body covered with large scales.

Dorsal VI - 9; Anal I, 8; second dorsal higher than first; caudal long, pointed; pectorals reach anal base.

In liquor fish appears black with fins lightly marbled with yellow.

Length 88 mm. (Castelnau.)

Queensland.

Eleotris radiata Valenciennes

Eleotris radiata (QUOY and GAIMARD) VALENCIENNES, Hist. Nat. Poiss., vol. 12, p. (188) 250, 1837 (type locality, River Tamise, north-east New Zealand). - WAITE, Records Canterbury Mus., vol. 1, No. 1, p. 27, April 25, 1907 (reference).

Depth 6; head 2 7/8, width 2 ¼. Snout 4 in head from snout tip; eye 4½, 1 1/8 in snout, greatly exceeds interorbital; maxillary reaches 2/5 in eye, length 2¾ in head from snout tip; teeth villiform, simple, conic, in bands in jaws, distinct, uniform and each tooth of moderate size, though anterior little longer; tongue truncate in front; interorbital 5 2/5, low, depressed concavely. Gill opening extends forward opposite hind pupil edge. Gill rakers about 5 + 15 lanceolate, long as gill filaments, which ½ of eye.

Scales 34 in axial lateral series to caudal base and 3 more on latter; 12 scales transversely between soft dorsal and anal origins; predorsal region with few or no scales. Chest, breast and prepectoral region apparently naked, likewise head. Caudal base scaly. Radiating line back and down from eye, extend at least half way in postpectoral and on cheek. Scales on tail all much larger than those on anterior part of body. Scales with 12 radiating basal striae; 19 to 22 apical denticles graduated little longer toward upper and lower edges of scales.

D. VII - I, 8, i, second spine 2 1/5 in total head length, third branched ray 2½; A. I, 9, i, second branched ray 2; caudal 1¾, median rays longest; least depth of caudal peduncle 3 1/3; pectoral rays 14, fin damaged; ventral rays I, 5, fins well separated, fin 1 7/8 in total head length. Anal papilla not distinct.

Largely uniform brownish, little paler below. Iris grayish. Mandible pale. Fins all pale brown.

New Zealand.

U.S.N.M., no. 82723. New Zealand. Geological Survey of Canada, Ottawa. Length 41 mm.

Eleotris robustus De Vis

Eleotris robustus DE VIS, Proc. Linn. Soc. New South Wales, vol. 9, pt. 3, p. 692, Nov. 29, 1884 (type locality, Queensland coast). - MC CULLOCH and OGILBY, Rec. Austral. Mus., vol. 12, No. 10, p. 270, July 14, 1919 (reference). - MC CULLOCH, Mem. Austral. Mus., vol. 5, pt. 3, p. 361, Nov. 28, 1929 (reference).

- McCulloch and Whitley, Mem. Queensland Mus., vol. 8, pt. 2, p. 169, July 7, 1925 (reference).

Depth $3\frac{1}{2}$; head $3\frac{1}{2}$. Snout $4\frac{3}{4}$ in head; orbit $5\frac{1}{2}$; interorbital 3; maxillary reaches $\frac{1}{2}$ in eye. Scales transversely 15. Head scaly to interorbital. Dorsal VI - I, 8, dorsals pointed; Anal I, 8; caudal rounded.

Color reddish brown. First dorsal with mesial pale band, and above it large pale spots. Second dorsal with 6 pale bands. Anal and caudal with pale marks on rays forming indistinct bars.

Length 106 mm. (De Vis.)

Queensland.

Eleotris sandwichensis Vaillant and Sauvage.

Eleotris sandwichensis VAILLANT and SAUVAGE, Rev. Mag. Zool., ser. 3, vol. 3, p. 280, 1875 (type locality, Hawaiian Islands). - JENKINS, Bull. U.S. Fish Comm., vol. 22, p. 499, 1902 (1903) (Honolulu; Hilo). - SNYDER, Bull. U.S. Fish Comm., vol. 22, p. 536, 1902 (1904) (Honolulu; Waimea River; Hanalei R.; Huleia R.; Honapepe R.; Anahulu R.). - JORDAN and SEALE, Bull. Bur. Fisher., vol. 25, p. 383, 1905 (1906) (reference).

Eleotris sandwicensis JORDAN and EVERMANN, Bull. U.S. Fish Comm., vol.23, pt. 1, p. 479, fig. 210, 1903 (1905) vol. 23, pt. 1, p. 479, fig. 210, 1903 (1905) (Honolulu; Waianae; Waialua; Moanalua; Moana Hotel; Waikiki; Hilo; Kailua). - JORDAN and JORDAN, Mem. Carnegie Mus., vol. 10, No. 1, p. 77, Dec. 1922 (Hawaii). - BORODIN, Bull. Vanderbilt Marine Mus., vol. 1, art. 2, p. 60, 1930 (Honolulu).

Gobius sandvicensis GÜNTHER, Rep. Voy. Challenger, vol. 1, pt. 6, p. 60, 1880 (honolulu fresh water).

Gobius homocyanus VAILLANT and SAUVAGE, Rev. Mag. Zool., ser. 3, vol. 3, p. 280, 1870 (type locality, Hawaiian Islands).

Glossogobius giuris (not BUCHANAN-HAMILTON) STREETS, Bull. U.S. Nat.

Mus., No. 7, p. 6, 1877 (Oahu coral reefs).

Culius fuscus (not SCHNEIDER) STREETS, op. cit., p. 57, 1877 (Honolulu).

Eleotris fusca JORDAN and SNYDER, Proc. U.S. Nat. Mus., vol. 24, p. 45, 1901 (Honolulu). - FOWLER, Mem. Bishop Mus., vol. 10, p. 392, 1928.

U.S.N.M., no. 18000. Oahu, Hawaiian Islands. Dr. T.H. Streets. Length 110 to 138 mm. Five examples. As Culius fuscus.

U.S.N.M., no. 49543. Hilo, Hawaii. H.W. Henshaw. Length 70 mm.

U.S.N.M., no. 51121. Hawaii. U.S. Fish Comm. 1901. Length 48 to 95 mm. Six examples.

U.S.N.M., no. 55110. Hanalei River in salt water, Kauai. U.S. Fish Comm. Albatross Exploration 1902. Length 43 to 215 mm. Fourteen examples.

U.S.N.M., no. 55140. Honolulu, Oahu. U.S. Fish Comm. Albatross Explorations 1902. Length 185 mm.

U.S.N.M., no. 55153. Waimea River, Kauai. U.S. Fish Comm. Albatross Explorations 1902. Length 88 to 137 mm. Three examples.

U.S. N.M. no. 55158. Hanalei River, Jauai, June 22, 1902. U.S.Fish Comm. Albatross Exploration. Length 72 to 132 mm. Four examples.

U.S.N.M., no. 55370. Honolulu, Oahu. U.S. Fish Comm. Albatross Exploration. Length 108 to 135 mm. Six examples.

U.S.N.M., no. 55406. Waikiki, Oahu, Bureau of Fisheries. Albatross Exploration. Length 71 mm.

U.S.B.Mus., no. 55407. Hawaii. U.S. Fish Comm. Albatross Exploration, Length 38 to 175 mm. Ninety examples.

U.S. N.M., no. 55408. Hanalei River, Kauai. U.S. Fish Comm. Albatross Exploration 1902. Length 55 to 140 mm. Nine examples.

U.S.N.M., no. 55409. Hanapepe River, Kauai. U.S. Fish Comm. Albatross Exploration 1902. Length 52 to 82 mm. Fourteen examples.

U.S.N.M., no. 78195. Hawaii. Bureau of Fisheries. Length 47 to 106 mm. Four examples.

U.S.N.M., no. 82855. Hawaii. Wilkes Exploring Expedition. Length 141 mm.

U.S.N.M., no. 82916. Hawaiian Islands. Wilkes Exploring Expedition. Length 59 to 95 mm. Three examples.

U.S.N.M., no. 83248. No locality. Wilkes Exploring Expedition. Length 155 mm.

U.S.N.M., no. 83280. Oahu. Wilkes Exploring Expedition. Length 178 mm.

U.S.N.M., no. 83290. Hawaiian Islands. Wilkes Exploring Expedition. Length 75? mm.

U.S.N.M., no. 83294. Hawaiian Islands. Wilkes Exploring Expedition. Length 82? mm.

U.S.N.M., no. 83305. Oahu. Wilkes Exploring Expedition. Length 132 mm.

U.S.N.M., no. 83438. Pacific Ocean. Wilkes Exploring Expedition. Length 110 to 118 mm. Two examples.

U.S.N.M., no. ____. Honolulu, Oahu. U.S. Fish Comm. Albatross Explorations 1896. Length 158 mm.

U.S.N.M., no. ____. Hawaiian Islands. U.S. Fish Comm. 1901. Length 82 mm. (with 55285 U.S.N.M.)

Eleotris sulcaticollis Castelnau

Eleotris sulcaticollis CASTELNAU, Proc. Linn. Soc. New South Wales, vol. 3, pt. 2, p. 142, Dec. 1878 (type locality, Brisbane River, Queensland).- MC CULLOCH and OGILBY, Rec. Austral. Mus., vol. 12, No. 10, p. 270, July 14, 1919 (reference). - MC CULLOCH, Mem. Austral. Mus., vol. 5, pt. 3, p. 361, Nov. 28, 1929 (reference).

- Mc Culloch and Whitley, Mem. Queensland Mus., vol. 8, pt. 2, p. 169, 1 July 7, 1925 (reference).

Body compressed, form oval, oblong. Head large, broad, depressed, with deep longitudinal groove on upper part. Scales 34 in lateral series, rather large. Dorsal VI - 11; Anal I, 11; both second dorsal and anal with last rays elongated; caudal broad, rounded.

In liquor bright yellow, rays of fins slightly dotted with black.

Length 100 mm. (Castelnau.)

Queensland. Castelnau says "This sort comes near my Eleotris planiceps."

Genus BELOBRANCHUS Bleeker

Belobranchus BLEEKER, Nat. Tyds. Ned. Indie, vol. 12, p. 300, 1856-57. (Type Eleotris belobrancha VALENCIENNES, monotypic.)

Body moderately long, cylindrical forward, and caudal peduncle rather long. Head large, obtuse, depressed. Snout moderate. Eye elevated, at first third in head. Mouth little inclined, lower jaw protruding. Maxillary extends below eye. Teeth without canines, pluriserial in jaws, and outer series little enlarged. Isthmus broad. Branchiostegals 6, with 1 or 2 upper ending anteriorly in sharp spine directed upward and forward. Scales 60 to 70 in lateral series. Head scaleless. Dorsals moderate, well separated, first fin with 6 spines, second fin with spine and 7 or 8 rays. Anal with spine and 7 or 8 rays. Caudal and pectoral moderate, ventral small.

One species in the East Indian region. The genus is especially interesting in the development of the strong spine at the forward end of the first and second upper branchiostegals.

Belobranchus belobrancha (Valenciennes)

Eleotris belobrancha VALENCIENNES, Hist. Nat. Poiss., vol. 12, p. 183, 1836 (type locality, Eaux douces de Manado, ile de Celebes). - BLEEKER, Nat. Tyds. Ned. Indie, vol. 5, p. (154) 167, 1853 (Maros, Celebes); vol. 8, p. 436, 1855 (Manado); vol. 9, p. 284, 1855 (Suwangan).- GÜNTHER, Cat. Fish. Brit. Mus., vol. 3, p. 127, 1861 (Ceram). - KÁROLI, Termesz, Fuzetek, Budapest, vol. 5, p. 167, 1881 (1882), (Palaboen). - MEYER, Anal. Soc. Espan. Hist. Nat. Madrid, vol. 14, p. 307, 1885 (Luzon), p. 30 (Manila Bay).

Belobranchus belobrancha HERRE, Gobies of Philippines, p. 35, pl. 2, fig. 2, 1927 (Kabatohan River; Alabat Island; Cajulogan barrio); Fish. Herre 1931 Philippine Exped., p. 80, 1934 (Dumaguete, Zamboanga). - ROXAS and MARTIN, Depart. Agric. Comm. Manila, Tech. Bull. 6, p. 220, 1937 (reference).

Belobranchus taeniopterum BLEEKER, Nat. Tyds. Ned. Indië, vol. 12, p. (293) 298, 1856 (type locality, Boleling, Bali); vol. 13, p. 385, 1857 (Batjan).

Belobranchus taeniopterus BLEEKER, Nat. Tyds. Ned. Indië, vol. 12,

p. 301, 1856-57 (type locality, "Boleling, in fluvus"); Verslag, Kon. Akad. Wet. Amsterdam, vol. 14, p. 111, 1862. – Giltay, Mém. Mus. Roy. Hist. Nat. Belg., hors sér., vol. 5, fasc. 3, p. 88, fig. 26 (branchiostegal), April 30, 1933 (Manoïs, Salawati).

Eleotris taenioptera GÜNTHER, Cat. Fish. Brit. Mus., vol. 3, p. 127, 1861 (copied).

Belobranchus quoyi BLEEKER, Nat. Tyds. Ned. Indie, vol. 13, p. 385, 1857 (type locality, Batjan); Act. Soc. Sci. Ind. Neerl. (No. 8), vol. 5, p. 1, 1858-59 (Kiabatdiatas, Celebes); (Diert. Celebes), vol. 8, p. 45, 1860 (Celebes); Verslag. Kon. Akad. Wet. Amsterdam, vol. 14, p. 111, 1862 (Batjan); Ned. Tyds. Dierk., vol. 2, p. 192, 1865 (Ceram); Arch. Neerl. Sci. Nat., Harlem, vol. 9, p. 304, 1874 (name); Verslag. Kon. Akad. Wet. Amsterdam, ser. 2, vol. 11, p. 53, 1877 (Bali; Borneo; Celebes; Batjan; Ceram).

Depth 6 to 7; head 3 to 3 2/5. Snout 3 2/3 in head, convex; eye 3 1/3 to 5¾, 1¼ to 2 in snout, twice interorbital to 1 1/3 in interorbital; maxillary shorter than mandible, in young reaches ½ in eye or with age opposite hind eye edge or little beyond; conspicuous postocular groove back over opercle; 2 longitudinal grooves on cheek, upper with an ascending branch, lower one branching forward on snout and above eye and continuous with postocular groove. First or first and second branchiostagels with strong, sharp, conic spine at forward end beneath preopercle, directed forward and upward. Branchial aperature vertical beneath, not produced upward and forward.

Scales 58 to 65 in lateral series; 20 transversely. Head and throat naked. Scales at nape, pectoral base, and on belly cycloid, and on sides toward tail ctenoid.

Dorsal VI -- I, 7 or 8, second spine 2 2/3 in total head length, fourth ray 2; Anal I, 7 or 8, third ray 1 7/8; caudal 1½, convex behind; least depth of caudal peduncle 2¼; pectoral 1½, rays 20 of which several uppermost short and silk like; ventral rays I, 5, fin 2 in total head length. Anal papilla slender, pointed.

Dark yellowish to violet golden or deep olive, beneath dark brown, golden or yellow. Numerous bands or narrow stripes of dark brown along the series of scales from head to tail. Several brown streaks from eye across opercle. Membranes of fins clear violaceous to dusky, with golden rays, in young and half-grown several golden crossbars or few to many golden ocelli or spots. Fins more or less golden and excepting ventrals variegated with brown, dorsals and anals with longitudinal stripes, and pectorals and caudal marked with irregular transverse bars. Above pectoral base commonly large dark or red spot. With age body much clouded with

brown, fins much or not at all variegated and spinous dorsal commonly dusky below apex.

Length 50 to 118 mm. (Herre.)

East Indies, Philippines, in rivers, and said to reach 180 mm. in length.

Genus Hypseleotris Gill

Hypseleotris GILL, Proc. Acad. Nat. Sci. Philadelphia, p. 270,1863.

(Type Eleotris cyprinoides VALENCIENNES, monotypic.)

Carassiops OGILBY, Proc. Linn. Soc. New South Wales, vol. 21, pt. 4, p. 732, May 31, 1897. (Type Eleotris compressus KREFFT, orthotypic.)

Caulichthys OGILBY, op. cit., pp. 784, 785, Nov. 24, 1897 (Type Asterropteryx guentheri BLEEKER, designated.)

Austrogobio OGILBY, op. cit., pp. 784, 785, November 4, 1898. (Type Carassiops galii OGILBY, orthotypic.)

Body compressed, deep to slender. Head small, compressed. Mouth rather small, inclined, lower jaw protruding in front. Band of villiform teeth in each jaw and palate toothless. Tongue broad, partly truncate or rounded in front, mostly free. Gill membranes separate. Isthmus rather narrow. Lower gill rakers 11, stout, longer posteriorly, tubercular anteriorly. Exposed edge of shoulder girdle a smooth, curved ridge. Psendobranchiae present. Vertebrae 24 to 31. Scales large, ctenoid, about 28 to 35 between pectoral base and hypural bone. Predorsal scales forward to between hinder margins of eyes, sometimes leave interorbital naked and cover cheek and opercle. Rows of minute pores extend around eye, across cheek, behind preopercle and on each side of mandible. Dorsal spines 5 to 8, rays 10 to 13. Anal rays 10 to 14. Caudal rounded.

Ventral with spine, and 5 rays.

Hypseleotris compressus (Krefft)

Eleotris compressus KREFFT, Proc. Zool. Soc. London, p. 184, 1864 (type locality, Clarence River; Port Denison). - GÜNTHER, Ann. Mag. Nat. Hist. London, ser. 3, vol. 20, p. 62, 1867 (Port Denison). - O'SHAUGHNESSY Ann. Mag. Nat. Hist. London, ser. 4, vol. 15, p. 147, 1875. - MC CLEAY, Proc. Linn. Soc. New South Wales, vol. 2, pt. 4, p. 358, pl. 9, fig. 7, June 1878 (Port Darwin). - OGILBY, Cat. Fish. New South Wales, p. 36, 1886.

Eleotris compressa GÜNTHER, Rep. Voy. Challenger, vol. 1, pt. 6, p. 33, 1880 (Mary River, Tiaro, Queensland).

Carassiops compressus OGILBY, Proc. Linn. Soc. New South Wales, vol. 21, pt. 4, p. 735, Nov. 25, 1897 (Clarence, Richmond, Tweede districts); pt. 4, p. 784, Nov. 24, 1897 (reference). - WAITE, Rec. Austral. Mus., vol. 5, p. 280, pl. 34, fig. 1, 1904 ( ). - MC CULLOCH and OGILBY, Rec. Austral. Mus., vol. 12, No. 10, p. 285, July 14, 1919 (Clarence R.; cotype of Eleotris compressus; Liverpool and Marrickville; Jervis Bay; Brisbane R.; cotypes of Eleotris humilis; Mary R.; Port Darwin; type of Eleotris elevatus). - MC CULLOCH, Mem. Austral. Mus., No. 5, pt. 3, p. 364,

Nov. 28, 1929 (reference).

Hypseleotris compressus COCKERELL, Mem. Queensland Mus., vol. 2, p. 59, 1913.

Eleotris brevirostris STEINDACHNER, Sitzs. Ber. Akad. Wiss. Wien, vol. 56, pt. 1, pp. 314, 325, 1867 (type locality, Cape York).

Crassiops brevirostris OGILBY, Proc. Linn. Soc. New South Wales, vol. 21, pt. 4, p. 784, Nov. 24, 1897 (reference).

Eleotris modesta (not BLEEKER) CASTELNAU, Proc. Zool. Soc. Victoria, vol. 2, p. 85, 1873 (type locality, Port Darwin). - MACLEAY, Proc. Linn. Soc. New South Wales, vol. 5, p. 620, 1881.

Carassiops modestus MC CULLOCH, Mem. Austral. Mus., No. 5, pt. 3, p. 365, Nov. 28, 1929 (reference).

Eleotris simplex CASTELNAU, Proc. Linn. Soc. New South Wales, vol. 3, p. 49, 1878 (type locality, Norman River, Queensland). - MACLEAY, op. cit., p. 621, 1881.

Mc Culloch and Whitley, Mem. Queensland Mus., vol. 8, pt. 2, p. 170, July 7, 1925 (reference).

Carassiops simplex MC CULLOCH, Mem. Austral. Mus., No. 5, pt. 3, p. 365, Nov. 28, 1929 (reference).

Eleotris reticulatus KLUNZINGER, Sitzs. Ber. Akad. Wiss. Wien, vol. 80, pt. 1, p. 385, pl. 4, fig. 3, 1879 (type locality, Port Darwin,

North Australia). - MACLEAY, Proc. Linn. Soc. New South Wales, vol. 9, p. 33, 1884 (copied).

Carassiops reticulatus OGILBY, Proc. Linn. Soc. New South Wales, vol. 21, pt. 4, p. 784, Nov. 24, 1897 (reference).

Eleotris elevata MACLEAY, op. cit., vol. 5, p. 622, 1881 (on MACLEAY 1878).

Crassiops elevatus OGILBY, l.c., p. 784 (reference).

Eleotris humilis DE VIS, Proc. Linn. Soc. New South Wales, vol. 9, pt. 3, p. 690, Nov. 29, 1884 (type locality, Brisbane, Queensland).

Eleotris cavifrons (not BLYTH 1860) DE VIS, op. cit., p. 693 (type locality, North east coast of Queensland).

Carassiops longi OGILBY, Proc. Linn. Soc. New South Wales, vol. 21, pt. 4, p. 733, May 31, 1897 (type locality, Chipping Norton, New South Wales); vol. 21, pt. 4, p. 784, Nov. 24, 1897 (reference).

Eleotris devisi OGILBY, op. cit. (type locality, North east coast of Queensland) (proposed for Eleotris cavifrons De Vis 1884).

Carassiops compressus var. montanus OGILBY, Proc. Roy. Soc. Queensland, vol. 20, p. 28, Jan. 2, 1907 (type locality, Head waters of the Condamine River, Queensland).

Depth 3¼ to 3¾; head 3½, width 1¾ to 2. Snout 4½ to 5 in head from snout tip; eye 4 7/8 to 5, 1 to 1 1/8 in snout, 1 1/3 to 1 2/3 in interorbital; maxillary very oblique, extends 4/5 to 7/8 to eye, length 3½ to 4 in head from snout tip; teeth minute, villiform, uniform, in rather broad bands of 5 to 7 teeth transversely in front of jaws, but little narrowed posteriorly; tongue small, front edge convex; interorbital 3 1/5 to 3½, low, broadly convex. Gill opening extends forward opposite hind eye edge. Gill rakers 3 + 8? short, lanceolate, 1/3 of gill filaments, which 1¼ in eye.

Scales 22 in axial lateral series to caudal base and 2 more on latter; 10 transversely between second dorsal origin ; 14 or 15 predorsal forward into hind part of interorbital; 4 rows on cheek. Head largely scaly, muzzle and branchiostegal region naked. Small scales on chest, breast, prepectoral region, median line of belly and caudal base. Largest scales on tail. Row of papillae from over nostrils and eyes, then back over postocular to suprascapula, former giving off bars above and latter with branches both above and below; line continues below and forward close to lower eye edge, giving off branches below. Line along lower face of each mandibular ramus back and along lower preopercular flange, also shorter line along upper edge of lower part of preopercular ridge. Sigmoid line of papillae down along front part of opercle. Scales with 21 basal radiating striae; 86 or 87 apical denticles, graduated little longer above and below; circuli fine.

D. VI - I, 9, 1, third spine 2 to 2½ in total head length, first branched ray 1 1/3 to 1 2/5; A. I, 10, 1, first branched ray 1¾ to 2 1/8; caudal 1 1/8 to 1 1/3, convex behind; least depth of caudal peduncle 2 to 2 1/5; pectoral 1¼ to 1 2/5, rays 13; ventral rays I, 5, fin 1 1/3 to 1 2/5 in total head length. Vent depressed flap, thick basally and thin terminally, end rounded, 1 1/3 in eye.

Brown, little paler or lighter below. Edge of each scale on back dark brown, to form reticulated pattern. Iris dull grayish. Dark or dusky shade at suprascapula. First light cream color or whitish, with 2 horizontal brown bands. Second dorsal pale or whitish, with 2 longitudinal rather broad bands, and on front edge of fin 3 or 4 brown spots and on hind edge as many blackish spots, latter leaving 3 distinct round pale spots; along base of fin several round pale spots. Anal light or pale brown, with submarginal broad dark band. Caudal pale brown, with 8 narrow transverse dark bands. Paired fins brown, ventrals little darker medially.

Northern Territory, Queensland, New South Wales.

U.S.N.M., no. 48822. Cook's and George's Rivers, New South Wales. Dr. J.D. Ogilby. Length 60 to 96 mm. Three examples.

U.S.N.M., no. 59985. Cook's River, New South Wales, 1905. D.G. Stead. Length 85 to 93 mm. Two examples.

Hypse~~l~~eotris feliceps (Blyth)

Eleotris feliceps BLYTH, Journ. Asiatic Soc. Bengal, vol. 29, p. 146, 1860 (type locality, Sitang River). - DAY, Proc. Zool. Soc. London, p. 517, 1869 (Andamans); Fishes of India, pt. 3, p. 311, 1877 (Andamans); Fauna of British India, Fishes, vol. 2, p. 291, 1889.

Depth 5; head 4, slightly depressed. Snout pointed; eyes close together, equal snout; maxillary extends ½ in eye; mouth cleft short, lower jaw longer; teeth villiform; no preopercular spine.

Scales 27 in lateral series; 12 transversely. Scales cycloid far as base of anal fin, where strongly ctenoid. Predorsal scales extend forward to hind edge of orbit, also cover cheeks and opercles.

D. VI - I, 10; A. 11; P. 14; V. I, 5. Dorsal spines filiform. Central caudal rays longest.

Brownish white, irregularly spotted and blotched with darker color. Dark bands pass downward from orbit. Fins more or less spotted.

Length 38 mm. (Day.)

Andaman Islands.

Hypseleotris galii (Ogilby)

Carassiops galii OGILBY, Proc. Linn. Soc. New South Wales, vol. 22, pt. 4, pp. 784, 788, November 24, 1897 (type locality, Pond in Botanic Gardens, Sydney; introduced). - WAITE, Rec. Austral. Mus., vol. 5, p. 281, pl. 34, fig. 2, 1904 ( ). - MC CULLOCH and OGILBY, Rec. Austral. Mus., vol. 12, No. 10, p. 289, July 14, 1919 (south east Queensland; near Brisbane; Bundaberg). - MC CULLOCH, Mem. Austral. Mus., No. 5, pt. 3, p. 364, Nov. 28, 1929 (reference).

Austrogobio galii OGILBY, Proc. Roy. Soc. Queensland, vol. 20, p. 29, 1907.

Depth 3 3/5 to 4; head 3 2/3 to 3 4/5, width $1\frac{3}{4}$ to 1 7/8. Snout 1/5 to 3/10 of a diameter shorter than eye, obtuse; eye 3 1/5 to 3 2/5 in head, maxillary reaches nearly to or to vertical of front eye edge, length 3 2/5 to 3 4/5 in head; interorbital 4 to $4\frac{3}{4}$, gently convex. Lower gill rakers 7.

Scales 29 or 30 in lateral series; 8 transversely. All scales imbricate, on head, nape and throat cycloid and smaller than body scales, which of equal size and ciliated.

D. VII or VIII - I, 10 to 12, fifth and sixth spines 1 7/8 to 2 2/5 in head, reach to or beyond second dorsal origin, posterior rays 1 1/5 to $1\frac{1}{2}$; A. I, 11 to 14, begins below second dorsal origin, similar; caudal rather short, 4 1/5 to $4\frac{3}{4}$ in total length; caudal peduncle rather slender; pectoral rays 15, reaches end of first dorsal, $1\frac{1}{4}$ to 1 2/5 in head; ventral 1 3/10 to 1 3/5, not or quite reaching vent. Anal papilla oblong, not or quite reaching anal.

Pale olive green, more or less clouded above with purplish-brown. Iris silvery. Fins hyaline. Dorsals and anal with broad coppery marginal band.

Length 52 mm. (Ogilby.)

Queensland.

Hypseleotris godeffroyi (Günther)

Eleotris godeffroyi GÜNTHER, Journ. Mus. Godeffroy, vol. 6, pt. 11, p. 188, pl. 122, fig. B, 1877 (type locality, Raiatea, Society Islands).

Hypseleotris godeffroyi JORDAN and SEALE, Bull. Bur. Fisher., vol. 25, p. 386, 1905 (1906) (reference). - FOWLER, Mem. Bishop Mus., vol. 10, p. 396, 1928 (Society Islands).

Depth 4 to $4\frac{1}{4}$; head 2 4/5 to 2 7/8, width 1 2/5 to 1 4/5. Snout $4\frac{1}{4}$ to $4\frac{3}{4}$ in head from snout tip; eye $3\frac{3}{4}$ to 4, greater than snout or interorbital; mouth oblique; maxillary $3\frac{1}{4}$ to 3 1/3; teeth in jaws fine, slender, uniserial; tongue slender, broadly convex in front; interorbital 3 1/3 to $3\frac{3}{4}$, level. Gill rakers 2 + 7, lanceolate, 2 in gill filaments or 2 in eye.

Scales 20 or 21 + 3 in median lateral series; 7 or 8 transversely; 7 to 9 predorsal. Scales with 15 to 21 basal radiating striae; apical denticles 20 to 25 + 20 to 25; circuli fine.

D. VI - I, 6, i, third spine 1 1/3 to 1 2/5 in total head length, fifty ray 1 to 1 1/3; A. I, 6, fourth ray 1 1/8; caudal 1 1/5; least depth of caudal peduncle 2 1/8 to 2 1/5; pectoral 1 1/3 to $1\frac{3}{4}$; ventral 1 1/8 to 1 1/3.

Pale brown, with 6 broad dusky brown transverse bands on trunk and tail; first at hind part of opercle; second from front of spinous dorsal; third from close behind spinous dorsal; fourth from front of soft dorsal to that of anal; fifth close behind soft dorsal and anal; sixth widest and on middle of caudal peduncle. Iris silvery. Dorsals and caudal more or less dusky. Pectoral and ventral pale brown.

Polynesia.

Hypseleotris klunzingeri (Ogilby)

Carassiops klunzingeri OGILBY, Proc. Linn. Soc. New South Wales,

vol. 22, pt. 4, p. 878, November 4, 1894 (on KLUNZINGER 1872).- MC CULLOCH, - Mc Culloch and Whitley, Mem. Queensland Mus., vol. 8, pt. 2, p. 170, July 7, 1925 (reference).
Mem. Austral. Mus., No. 5, pt. 3, p. 364, Nov. 28, 1929 (reference).

Carassiops (Austrogobio) klunzingeri MC CULLOCH and OGILBY, Rec.

Austral. Mus., vol. 12, No. 10, p. 289, pl. 37, figs. 2-3, July 14, 1919
(North Yanko; Ryleston; Pallal; Eidsvold).

Eleotris cyprinoides (not VALENCIENNES) KLUNZINGER, Archiv. Naturg.,
vol. 38, pt. 1, p. 31, 1872 (type locality, Murray River); Sitzs. Ber.
Akad. Wiss. Wien, vol. 80, pt. 1, p. 384, pl. 5, fig. 2, 1879 (1880) (type).-
MACLEAY, Proc. Linn. Soc. New South Wales, vol. 9, p. 33, 1884 (copied).-
LUCAS, Proc. Roy. Soc. Victoria, ser. 2, vol. 2, p. 29, 1890 (reference).-
WEBER, Zool. Forsch. Austral. Semon, vol. 5, p. 270, 1895 (Burnett R.).-

Carassiops cyprinoides OGILBY, Proc. Linn. Soc. New South Wales,
vol. 22, pt. 4, p. 785, Nov. 24, 1897 (reference).

Depth $4\frac{3}{4}$; head $3\frac{3}{4}$. Snout 4 in head from snout tip; eye 4, subequal with snout; maxillary reaches 4/5 to eye, length 3 7/8 in head from snout tip; interorbital low.

Scales 28 to 30? in lateral series; 10 transversely. Scales small on head and trunk, larger on tail.

D. $\underline{\underline{\underline{VI}}}$ - $\underline{\underline{\underline{I}}}$, 10, third spine 2 1/6 in total head length, first branched ray 2; A. $\underline{\underline{\underline{I}}}$, 10, third branched ray 2; caudal 1 1/10, little convex behind; least depth of caudal peduncle 3; pectoral $1\frac{1}{4}$; ventral 1 1/3.

Body yellowish, without dark lateral band. Blackish blotch above pectoral origin. Fins hyaline.

Length 50 mm. (Klunzinger.)

Ogilby separated it from Hypseleotris cyprinoides "since it differs not only in having a larger number of dorsal rays, but in the possession of no less than ten transverse series of scales between the origin of the second dorsal and the anal fins."

Hypseleotris cyprinoides (Valenciennes)

Eleotris cyprinoides VALENCIENNES, Hist. Nat. Poiss., vol. 12, p. 248, 1837 (type locality, St. Maurice River, Bourbon). - BLEEKER, Verslag. Kon. Akad. Wet. Amsterdam, vol. 12, p. 32, 1861 (Singapore).- GÜNTHER, Cat. Fish. Brit. Mus., vol. 3, p. 118, 1861 (Oualan). - SCHMELTZ, Cat. Mus. Godeffroy, No. 4, p. 19, 1869 (Kanathia); No. 5, p. 28, 1874 (Viti; Samoa). - KÁROLI, Termesz. Füzetek, Budapest, vol. 5, p. 167, 1881 (1882) (Ceylon). - ELERA, Cat. Fauna Filipinas, vol. 1, p. 524, 1895 (Luzon, Cavite, Santa Cruz, Manila).

Carassiops cyprinoides OGILBY, Proc. Linn. Soc. New South Wales, vol. 24, pt. 4, p. 785, Nov. 24, 1897 (reference).

Hypseleotris cyprinoides JORDAN and SEALE, Proc. U.S. Nat. Mus., vol. 28, p. 794, 1905 (1906) (Negros). - JORDAN and RICHARDSON, Philippine Journ. Sci., p. 46, 1910 (reference). - HERRE, Gobies of Philippines, p. 38, 1927 (copied). - FOWLER, Mem. Bishop Mus., vol. 10, p. 396, 1928 (Apia); vol. 11, No. 5, p. 361, 1931 (reference); vol. 11, No. 6, p. 442, 1934 (Apia; Fiji). - ROXAS and MARTIN, Depart. Agric. Comm. Manila, Tech. Bull.

6, p. 22, 1937 (reference). - FOWLER, ~~Cat.~~ List Fish. Malaya, p. 209, 1937 (reference).

Eleotris oxycephala (not SCHLEGEL) SCHMELTZ, Cat. Mus. Godeffroy, No. 3, p. 9, 1866 (Samoa); No. 4, p. 18, 1869 (Samoa).

Asterropteryx güntheri BLEEKER, Arch. Néerl. Sci. Nat. Harlem, vol. 10, p. 112, 1875 (type locality, Oualan).

Eleotris guentheri GÜNTHER, Journ. Mus. Godeffroy, vol. 6, pt. 11, p. 186, pl. 113, fig. A, 1877 (Oualan; Fiji; Samoa; Savaii). - SCHMELTZ, Cat. Mus. Godeffroy, No. 7, p. 47, 1879 (Tonga).

Eleotris guntheri STEINDACHNER, Sitzs. Ber. Akad. Wiss. Wien, vol. 115, pt. 1, p. 1406, 1906 (fresh waters Samoa).

Crassiops guentheri OGILBY, Proc. Linn. Soc. New South Wales, vol. 22, pt. 4, pp. 769, 785, Nov. 24, 1897 (New Caledonia).

Crassiops cyprinoides var. guntheri WEBER and BEAUFORT, Nova Caledonia, Sarasin and Roux, Zool., vol. 2, pt. 1, p. 35, 1915 (Tchalabel; streams near Cape Colnett).

Hypseleotris guntheri JORDAN and SEALE, Bull. Bur. Fisher., vol. 25, p. 385, fig. 74, 1905 (1906) (Vaisigano; Gasigase; Vailima; Apia).

Eleotris cyprinus SCHMELTZ, Cat. Mus. Godeffroy, No. 7, p. 47, 1879 (Viti; Samoa). - PÖHL, Cat. Mus. Godeffroy, No. 9, p. 33, 1884 (Viti).

Eleotris (Giuris) vanicolensis SAUVAGE, Bull. Soc. Philom., Paris, ser. 7, vol. 4, p. 54, 1879 (type locality, Vanikoro).

Hypseleotris vanicolensis JORDAN and SEALE, Bull. Bur. Sci., vol. 25, p. 385, 1905 (reference). - WHITLEY, Journ. Pan-Pac. Res. Inst., vol. 3, No. 1, p. 13, Jan.-March 1928 (Santa Cruz Islands).

Eleotris nigra (QUOY and GAIMARD) SAUVAGE, Bull. Soc. Philomath. Paris, ser. 7, vol. 4, p. 54, 1880 (name in text).

Depth 4 to 4 3/5; head $3\frac{3}{4}$ to 3 4/5, width 1 4/5 to 1 7/8. Snout 4 to $4\frac{3}{4}$ in head from snout tip; eye 3 1/3 to 4, greater than snout, 1 to $1\frac{1}{4}$ in interorbital; maxillary reaches $\frac{3}{4}$ to eye, length 4 1/8 to 4 1/3 in head from snout tip; teeth minute, in moderate villiform bands in jaws, none on palate; tongue with front end slightly truncate; interorbital 3 1/8, broadly convex. Gill rakers 4 + 11, lanceolate, $\frac{1}{4}$ of gill filaments, which $1\frac{1}{2}$ in eye.

Scales 26 to 28 + 3 or 4 in axial lateral series; 10 transversely above anal origin; 17 or 18 predorsal forward to front of snout; 4 or 5 rows on cheek. Head largely scaled, lips, front edge of snout, mandibular rami and branchiostegal region naked. Small scales on caudal base, prepectoral region, chest and breast. Scales with 13 to 17 basal radiating striae; row of 65 to 86 short, pointed apical denticles; circuli fine, little coarser to obsolete apically.

D. VI - I, 8, I, third spine 1 4/5 in total head length, last ray 1 2/5 to 2; A. I, 9, I or I, 10, I, last ray $1\frac{3}{4}$ to 2 1/8; caudal 1 to 1 1/10, little convex behind; least depth of caudal peduncle 2 to 2 1/5; pectoral 1 to 1 1/5, rays I, 10; ventral I, 5, fin 1 1/3 to $1\frac{1}{2}$ in total head length. Anal papilla rather broad flap, little shorter than eye and its hind edge notched.

Brown, under surfaces of head and body paler. Iris dark gray. Dark brown longitudinal band from pectoral base to bases of medial lower caudal rays, where ending in a blackish blotch. Blackish brown bar down from origin of pectoral across its base. Spinous dorsal dark gray, with 6 or more large rounded white blotches. Soft dorsal dark gray, with 4 to 6 irregular rows of close set whitish rounded large blotches. Caudal pale brownish, with 6 to 8 dark bars on each ray, most intense basally on fin.

Anal gray, with lower edge whitish. Paired fins pale brown. Ventral narrowly edged whitish.

Bourbon, Malaya, East Indies, Melanesia, Micronesia, Polynesia.

Two examples. Bito Lake, Aboyog, Leyte. July 26, 1909. Length 61 or 62 mm.

Three examples. Bagaong River, four miles from mouth, Sablayan Bay, Mindoro. December 13, 1908. Length 40 to 62 mm.

Three examples. Basud River, Luzon. June 15, 1909. Length 47 to 65 mm.

13744. Batangas market. June 6, 1908. Length 43 mm.

Twelve examples. Nanjan River, Mindoro. June 5, 1908. Length 37 to 56 mm.

Three examples. Nato River, Luzon. June 17, 1909. Length 48 to 55 mm.

Twenty-four examples. Nato River. June 18, 1909. Length 43 to 63 mm. Though in rather poor condition they show the second dorsal usually with 4 to 6 black bars on last rays at least.

Two examples. Port Dupon, Leyte. March 17, 1909. Length 57 to 65 mm.

One example. Port Jamelo, two miles up river, Luzon. July 13, 1908.

Two examples. Yaua River, Legaspi. June 7, 1909. Length 45 to 48 mm.

U.S.N.M., No. 52213. Apia, Samoa. Bureau of Fisheries (06514). Length 66 to 92 mm.

Twenty-two examples. As Hypseleotris güntheri.

U.S.N.M., No. 52260. Apia. Bureau of Fisheries (06537). Length 63 mm. As Hypselotris güntheri.

Hypseleotris leuciscus (Bleeker)

Eleotris leuciscus BLEEKER, Nat. Tyds. Ned. Indië, vol. 4, p. 278, 1853 (type locality, Sumatra occidentalis in fluvius) ; Act. Soc. Sci. Ind. Neerl. (Acht. Sumatra), vol. 8, p. 40, Feb.-Aug. 1859 (reference). - GÜNTHER, Cat. Fish. Brit. Mus., vol. 3, p. 118, 1861 (copied). - BLEEKER, Arch. Néerl. Sci. Nat. Harlem, vol. 10, p. 106, 1875 (name only).

Carassiops leuciscus OGILBY, Proc. Linn. Soc. New South Wales, vol. 22, pt. 4, p. 785, Nov. 24, 1897 (reference).

Depth $3\frac{3}{4}$; head $4\frac{1}{2}$, width 2. Snout shorter than eye, acute; eye $3\frac{1}{2}$ in head, 1 in interorbital; orbit smooth; maxillary not quite reaching eye; lower jaw longer, mouth cleft short; upper teeth pluriserial, small, equal, none canines; postocular groove inconspicuous; no preopercular spine.

Scales 25 in lateral series; 13 predorsal. Head entirely scaled.

D. VI - I, 9 or 10, first dorsal rounded with flexible spines of which third longest or more than twice lower than body depth, second dorsal obtusely angulate behind and higher than first dorsal, though lower than body; A. I, 11, acute, lower than body; caudal obtusely convex, 4 2/3 in body; pectoral 5, obtuse, rays 13; ventral rays I, 5, fin 6 in body. Anal papilla large, quadrate, bilobed.

Body anteriorly red, posteriorly green, scale edges darker. First dorsal with yellow basal band, median black band and above broadly black. Second dorsal violaceous, with yellow spots. Pectoral violaceous, with basal double black and yellow blotch. Other fins red, ventral and anal edged black below.

Length 59 mm. (Bleeker.)

Sumatra. Said to be related to Eleotris cyprinoides.

Hypseleotris modestus (Bleeker)

Asterropteryx modestus BLEEKER, Arch. Néerl. Sci. Nat., Harlem, vol. 10, p. 111, 1875 (on BLEEKER 1854); Verslag. Kon. Akad. Wet Amsterdam, ser. 2, vol. 11, p. 81, 1877 (Singapore; Sumatra). - FOWLER, List Fish. Malaya, p. 207, 1938 (Singapore).

Asterropterix modestus FOWLER, Mem. Bishop Mus., vol. 10, p. 394, 1928 (compiled).

Eleotris (Asterropteryx) modestus PERUGIA, Ann. Mus. Civ. Genova, vol. 34, p. 548, 1894 (Inawi River, San Guiseppe, Makemo, New Guinea).

Hypseleotris modestus JORDAN and RICHARDSON, Bull. Bur. Fisher., p. 27, 1908 (Mindoro); Philippine Journ. Sci., p. 46, 1910 (reference). - HERRE, Gobies of Philippines, p.41, 1927 (Taytay; Daguitan R.; Pansipit R.; San Jose; Puerto Galero); Fishes Herre 1931 Philippine Exped., p. 80, 1934 (Dulag, Leyte). - FOWLER, Proc. Acad. Nat. Sci. Philadelphia, vol. 86, p. 81, fig. 20, 1934 (ten miles north of Padang Bai, Bali). - ROXAS and MARTIN, Depart. Agric. Comm. Manila, Tech. Bull. 6, p. 221, 1937 (reference).

Eleotris cyprinoides (not VALENCIENNES) BLEEKER, Nat. Tyds. Ned.

Indië, vol. 4, p. 277, 1854 (type locality, Singapore; Sumatra); Act. Soc. Sci. Ind. Neerl. (Acht. Sumatra), vol. 8, p. 40 (Benkulen; Padang).

Hypseleotris agilis HERRE, Gobies of Philippines, p. 38, pl. 2, fig. 3, 1927 (type locality, Creek flowing into Lake Mainit, near the barrio of Mainit, Surigao Province, Mindanao); Fishes Herre 1931 Philippine Exped., p. 80, 1934 (Laguna de Bay; Nasugbu). - ROXAS and MARTIN, Depart. Agric. Comm. Manila, Tech. Bull. 6, p. 220, 1937 (reference).

Hypseleotris bipartita HERRE, Gobies of Philippines, p. 39, pl. 3, fig. 1, 1927 (type locality, Creek at barrio Puru, Legaspi, Albay Province; Rawis River). - ROXAS and MARTIN, Depart. Agric. Comm. Manila, Tech. Bull. 6, p. 221, 1937 (reference).

Hypseleotris pangel HERRE, Gobies of Philippines, p. 42, pl. 3, fig. 2, 1927 (type locality, Believed to have been collected in Cavite Province). - ROXAS and MARTIN, Depart. Agric. Comm. Manila, Tech. Bull. 6, p. 221, 1937 (reference).

Depth 3 7/8 to 4; head 3 2/5 to 3½, width 1 3/5. Snout 4 1/3 to 5 in head measured from snout tip; eye 4 to 5, subequal with snout, 1 to 1 1/5 in interorbital; maxillary reaches about 2/3 to ¾ to eye, length 5 to 5½ in head from snout tip; interorbital 2 4/5 to 3, low, broadly convex.

Scales 27 to 29 in lateral series; 8 or 9 transversely above anal origin. On head scales larger on opercle than on cheek.

D. VI - I, 7 to 10, third spine 1 7/8 to 2 in total head length, first branched ray 1 2/5 to 1½; A. I, 10 or 11, first branched ray 1 3/7 to 1½; caudal 1 1/6 to 1 1/5, convex behind; least depth of caudal peduncle 2; pectoral 1 1/8 to 1 1/5, rays 11 or 12; ventral rays I, 5, fin 1¼ to 1 1/5 in total head length. Anal papilla 2 in eye.

Largely dull uniform brown, scarcely paler below. Fins pale brownish, with about 4 or 5 darker longitudinal streaks, and as many transversely on caudal.

East Indies, Malaya, Philippines.

24135. Abuyog Light near mouth of Bita River. July 26, 1909. Length 58 mm.

Six examples. Bagaong River 4 miles from mouth, Sablayan Bay, Mindoro. December 13, 1908. Length 26 to 48 mm.

Ninety-one examples. Caluagan River 3 miles from mouth near Paluan Bay, Mindoro. December 11, 1908. Length 15 to 56 mm.

One example. Malugas River in brackish water, Malavgao, Mindoro, Dec. 11, 1908. Length 32 mm.

Two examples. Nanjan River, Mindoro. June 5, 1908. Length 28 to 40 mm.

Two examples. Nato River. June 17, 1909. Length 45 to 52 mm.

Seventeen examples. Port Dupon river in fresh water, Leyte. March 17, 1909. Length 32 to 57 mm. [1389.]

One example. Stream near village at Chase Head, Endeavor Strait, Palawan. December 22, 1908. Length 49 mm.

Genus AMBLYGOBIUS Bleeker

Amblygobius BLEEKER, Arch. Néerl. Sci. Nat., Harlem, vol. 9, p. 322, 1874. (Type Gobius sphynx VALENCIENNES, orthotypic.)

Odontogobius BLEEKER, op. cit., p. 323, 1874. (Type Gobius bynoensis BLEEKER, orthotypic.)

Body moderately wide, compressed. Head large. Snout moderate, somewhat tumid. Eye advanced, usually less than snout. Mouth moderate, little oblique, jaws subequal. Outer row of larger teeth anteriorly, followed by an inner series of smaller ones; large canines on sides of mandible; palate toothless. Tongue free in front, subtruncate anteriorly. No barbels. Gill openings broad, separated by wide isthmus. Gill rakers few, obsolete on outer edge of first arch. Psendobranchiae present. Scales rather small, cycloid anteriorly on body, breast and pectoral base, few imperfect on upper part of opercle, others mostly ctenoid. Head with fine rows of mucigerous papillae. Shoulder girdle smooth. Dorsals almost continuous, with 6 spines and 15 rays. Anal like second dorsal, opposite, with 15 rays. Caudal rounded. Pectoral rounded, rays 18 or 19. Ventrals large, united, with spine and 5 rays.

Indo-Pacific. Small, more or less barred or striped gobies with brilliant coloring.

I feel convinced that Amblygobius myersi Herre is probably a variant of Valenciennea muralis (Valenciennes). Its coloration is exactly similar to undoubted specimens of the latter examined, and its structural characters are also in agreement.

Amblygobius albimaculatus (Rüppell)

Gobius albimaculatus RÜPPELL, Atlas Reis. Nördl. Afrika, Fisch, p. 135, 1828 (type locality, Massaua, Red Sea).

Gobius albomaculatus RÜPPELL, Neue Wirbelth., Fische, p. 137, 1835 (copied). - PETERS, Archiv Naturges., 1855, p. 250 (Mozambique). - GÜNTHER, Cat. Fish. Brit. Mus., vol. 3, p. 69, 1861 (Red Sea). - PLAYFAIR, Fishes of Zanzibar, p. 71, 1866 (Zanzibar). - KLUNZINGER, Verh. Zool. Bot. Gesell. Wien, vol. 21, p. 477, 1871 (Red Sea). - SAUVAGE, Hist. Nat. Madagascar, Poiss., p. 520, 1891 (reference).

Gobius quinqueocellatus Valenciennes, Hist. Nat. Poiss., vol. 12, p. 95, 1837 (type locality, Massauah, Red Sea).

Gobius semitaeniatus (EHRENBERG) VALENCIENNES, op. cit. (type locality, Massauah) (name in text).

Amblygobius bynoensis (Richardson)

Gobius bynoensis RICHARDSON, Voy. Erebus and Terror. Fish., p. 1, pl. 1, figs. 1-2, 1844-48 (type locality, Coasts of Western Australia [Bynoe]).- GÜNTHER, Cat. Fish. Brit. Mus., vol. 3, p. 70, 1861 (type; Australia; Port Essington; Philippines). — STEINDACHNER, Sitzs. Ber. Akad. Wiss. Wien, vol. 56, pt. 1, p. 314, 1867 (Cape York). - GUNTHER, Ann. Mag. Nat. Hist., London, ser. 3, vol. 20, p. 61, 1867 (Australia). - PETERS, Monatsb. Akad. Wiss. Berlin, p. 266, 1868 (Luzon). - STEINDACHNER, Sitzs. Akad. Wiss. Wien, vol. 60, pt. 1, 563, 1870 (Singapore). - DAY, Fishes of India, pt. 2, p. 284, pl. 61, fig. 3, 1876 (Andamans). - KLUNZINGER, Sitz. Ber. Akad. Wiss. Wien, vol. 80, pt. 1, p. 382, 1879 (1880) (note). - GUNTHER, Rep. Voy. Challenger, vol. 1, vol. 6, p. 44, 1880 (Somerset). - MACLEAY, Proc. Linn. Soc. N.S. Wales, vol. 5, p. 607, 1881 (compiled). - Day, Fauna Brit. India, vol. 2, p. 249, 1889 (copied). - WEBER, Zool. Forschr. Austr. Semon, vol. 5, p. 269, 1895 (Thursday Island).

Gobius (Amblygobius) bynoensis Weber, Siboga Exped., vol. 57, Fische. p. 472, 1913 (Tual, Kei Islands).

Amblygobius bynoensis JORDAN and SEALE, Proc. U.S. Nat. Mus., vol. 28, p. 795, 1905 (Negros). - JORDAN and RICHARDSON, Philippine Journ. Sci., p.

49, 1910 (reference). - MC CULLOCH and OGILBY, Rec. Austral. Mus., vol. 12, No. 10, p. 251, pl. 35, fig. 2, July 14, 1919 (Palm Islands; Cape Grenville; types of Amblygobius lineatus; Thursday Island; Port Darwin; types of Amblygobius bivittatus; Malay Archipelago). - HERRE, Gobies of Philippines, p. 232, pl. 19, fig. 1, 1927 (Polillo; Busuanga; Bautayan Islands; Camigao; Inabanga). - MC CULLOCH, Austral. Mus. Mem., No. 5, pt. 3, p. 368, Nov. 28, 1929 (reference). - FOWLER, List Malaya Fish., p. 212, 1937 (Singapore). - ROXAS and MARTIN, Dep. Agric. Comm. Manila, Tech. Bull. 6, p. 230, 1937 (reference).

Gobius stethophthalmus BLEEKER, Nat. Tyds. Ned. Indie, vol. 1, p. 248, 1850 (type locality, Anjer); vol. 15, p. (220) 236, 1858 (Biliton), p. 242 (Singapore); vol. 18, p. 356, 1859 (Bawean); vol. 22, p. 245, 1860 (Batoesendi and Tambelang, Bawean).

Apocryptes lineatus ALLEYNE and MACLEAY, Proc. Linn. Soc. N.S. Wales, vol. 1, p. 332, pl. 12, fig. 3, 1877 (type locality, Cape Grenville). - MACLEAY, op. cit., vol. 5, p. 611, 1881.

Apocryptes bivittatus Macleay, op. cit., vol. 2, pt. 4, p. 357, pl. 9, fig. 5, June 1878 (type locality, Port Darwin); vol. 5, p. 611, 1881.

One example. P. 23729 [1570].
Biri Channel. June 1–2, 1909.
Length 98 mm.

One example. Malcochin Harbor, Linapacan Island. Venie. December 19, 1908. Length 56 mm. [949.]

Two examples. Reef opposite Cebu, April 5, 1908. Length 41 to 49 mm.

Eighty-eight examples. Great Tobea Island, Dutch East Indies. Albatross Collection 1907–1909. December 15, 1909. Length 18 to 73 mm.

U.S. N.M., no. 28536. Cochin China. Museum Histoire Naturelle Paris. Length 57 to 78 mm. Two examples. As Gobius harmandi.

U.S.N.M., no. 52005. Negros, Philippines. Dr. Bashford Dean. Length 65 mm. As Odontogobius bynoensis.

~~Eighty-eight examples. Great Tobago Island, tide pool. December 15, 1909. Albatross Collection 1907-1909. Length 18 to 73 mm.~~

Amblygobius fuscus new species

Unique in its largely dark brown coloration, appearing uniform. Prominent structural characters are the very large eye, greatly exceeding the snout or narrow preorbital, and well entering the upper profile of the head. The large mouth begins level with the lower eye edge, and the oblique maxillary extends 3/4 in the eye. The predorsal scales extend well forward though not quite to the eyes, and the body scales 42 + 4 in a lateral series with those on the tail and caudal peduncle much larger. The united ventrals have a broad frenum in front or about 1/3 length of fin basally.

U. S. N. M., no D. 5131.
Island off Panabutan Point,
N. 20° E., 0. 40 mile, Sulu Sea
off western Mindanao. Dn 27
fathoms. February 6, 1908. Length
40 mm.

Amblygobius inornatus Herre

Amblygobius inornatus HERRE, Gobies of Philippines, p. 228, 1927 (type locality, Tide pool on the Martin ranch, Siasi, Sulu Province). - ROXAS and MARTIN, Depart. Agric. Comm. Manila, Tech. Bull. 6, p. 230, 1937 (reference).

Depth 6 3/7, body long, low; head 3 2/5, width 2 1/5. Snout 4½ in head, narrow, blunt; eye 4 1/10, oblique, dorsolateral; maxillary reaches below front pupil edge; mouth oblique, lower jaw slightly projecting; upper teeth triserial, outer row enlarged; short row of enlarged lower teeth, ending in backward-curved canine, followed by 3 more rows, those of middle rows minute, of innermost row larger than 2 middle ones; interorbital very narrow.

Scales 68 in lateral series. Head and nape naked back to first dorsal. Scales on posterior half of body much larger than those on anterior half of body. Scales appear cycloid, but really ctenoid, minute apical denticles very fragile.

D. VI - I, 11, first fin considerably advanced from second, not reaching latter when depressed, median rays longest or 2¼ in head; A. I, 10, like second dorsal, not reaching caudal when depressed, equals first dorsal in height; caudal peduncle depth little over 2 in head; caudal 1 1/9, subtruncate; pointed paired fins subequal or 1½ in head.

Color in alcohol uniform brown, with an inconspicuous, wide, dark brown band passing back from eye along upper part of side and disappearing beneath origin of second dorsal. First dorsal light brown basally, with wide, clear horizontal band above, rest of fin blackish brown. Second dorsal dark brown, vaguely crossbarred by 2 rows of pale spots. Caudal light brown, with crossbars of blackish brown. Anal light brown, margin blackish. Pectoral color of body. Ventral brown, middle blackish brown.

Length 31 mm. (Herre.)

Sulu, Philippines.

Amblygobius linki Herre

Amblygobius linki HERRE, Gobies of Philippines, p. 231, pl. 18, fig. 4, 1927 (type locality, Wharf at Bungau, Sulu Province; Caldera Bay, Mindanao). - ROXAS and MARTIN, Depart. Agric. Comm. Manila, Tech. Bull. 6, p. 231, 1937 (reference).

Three examples. Cebu market, Cebu.
March 28, 1909. Length 59 to 78 mm.

One example. Cebu market, Cebu.
August 28, 1908. Length 68 mm.
P. 8162. Cebu market. August 29, 1909.
Length 76 mm. [1865].

Amblygobius papuanus (Peters)

Gobius papuanus PETERS, Monatsb. Akad. Wiss. Berlin, p. 839, 1876 (1877) (type locality, Mac Cluers Bay, Papua). - WEBER, Siboga Exped. vol. 57, Fische, p. 473, 1913 (reference).

Cryptocentrus papuensis BLEEKER, Arch. Néerl. Sci. Nat. Harlem, vol. 13, p. 54, 1878 (reference, on Peters).

Amblygobius papuanus JORDAN and SEALE, Bull. Bur. Fisher., vol. 25, p. 406, 1905 (1906) (reference). - FOWLER, Mem. Bishop Mus., vol. 10, p. 413, 1928 (copied).

Amblygobius
~~Gobius~~ decussatus (Bleeker)

Gobius decussatus Bleeker, Nat. Tijds. Ned. Indie, vol. 8, p. (436) 442, 1855 (type locality, Manado, Celebes); vol. 11, p. 385, 1856 (Kajeli, Buru); vol. 12, p. 215, 1856 (Mias); Act. Soc. Sci. Indo Neerl. (Vert. Celebes), vol. 8, p. 43, 1860 (Celebes). — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 69, 1861 (copied). — Bleeker, Ned. Tijds. Dierk., vol. 2, p. 149, 1865 (Bouro).

Amblygobius decussatus Koumans, Zool. Med. Rijks Mus. Nat. Hist. Leiden, p. 139, 1935 (type).

~~Amblygobius perpusillus (Seale)~~

Rhinogobius perpusillus SEALE, Philippine Journ. Sci., vol. 4, No. 6, p. 534, 1909 (type locality, Zamboanga).

Amblygobius perpusillus HERRE, Gobies of Philippines, p. 229, 1927 (Palawan). - ROXAS and MARTIN, Depart. Agric. Comm. Manila, Tech. Bull. 6, p. 231, 1937 (reference).

Amblygobius perpusillus buanensis HERRE, op. cit., p. 230, pl. 18, fig. 2, 1927 (type locality, Fresh water spring on Buan Island, lying off the east coast of Tawitawi).

Depth 4; head 3½, width little less than its own depth. Snout 4¼ in head; eye 4¼, subequal with snout, greater than interorbital; maxillary reaches just beyond front eye edge, length in profile 2 7/8 in head; lower teeth with outer row of 5, short, thick ones on each side, terminating in very large, backward-curved canine; interorbital broad, ¾ of eye.

Scales 58 in lateral series; 20 transversely, 22 predorsal. Head naked, except 4 rows of small scales on upper part of opercle. Scales on nape smaller than on sides and extend forward almost to eyes. Pectoral base scaly.

D. VI - I, 14, fourth spine 1 3/5 in head, first ray 1 7/8, last ray 1¼; A. I, 13, first ray 2 1/8, last ray 1½; caudal 1, little pointed behind; least depth of caudal peduncle 2 1/8; pectoral 1 1/8, rays I, 12, I; ventral I, 5, fin 1½ in head.

Color in alcohol dusky brown above, very pale below. Narrow dark brown band around snout on upper lip to eye, continues back to upper part of caudal base and hind part very faint. Similar band encircles chin, from mouth corner across preopercle to pectoral base, where apparently ending, though continues beneath pectoral back along middle of side to large, circular, blackish brown spot on caudal base. Five wide blackish bands, with indefinite edges cross back and descend on sides, thus forming 6 oblong whitish spots along middle of side, between the 2 longitudinal bands. Each scale on back and side with more or less evident, small, central whitish spot, these forming longitudinal rows. Top of snout dark brown. Dorsals and anals brownish, membranes faintly specked with minute brown dots. Other fins without distinctive markings.

Length 60 mm. (Herre.)

Philippines

Amblygobius semicinctus (Bennett)

Gobius semicinstus BENNETT, Proc. Zool. Soc. London, vol. 1, p. 32, 1833 (type locality, Mauritius). - GÜNTHER, Cat. Fish. Brit. Mus., vol. 4, p. 68, 1861 (type). - KNER, Sitzs. Ber. Akad. Wiss. Wien, vol. 57, pt. 1, p. 326, 1868 (Kanathia, Oualan, Fiji). - SCHMELZ, Cat. Mus. Godeffroy, No. 4, p. 18, 1869 (Kanathia); No. 7, p. 46, 1879 (Viti Islands). - PÖHL, Cat. Mus. Godeffroy, No. 10, p. 33, 1884 (Viti).

Amblygobius semicinctus JORDAN and SEALE, Bull. Bur. Fisher., vol. 25, p. 405, 1905 (1906) (reference). - FOWLER, Mem. Bishop Mus., vol. 10, p. 413, 1928 (copied); vol. 11, No. 5, p. 363, 1931 (reference).

Amblygobius semicinctus semicinctus TOMIYAMA, Jap. Journ. Zool., vol. 7, No. 1, p. 76, fig. 27, 1936 (Unten, Okinawa; Tokunosima, Ryukyu; Jolo).

Gobius papilio VALENCIENNES, Hist. Nat. Poiss., vol. 12, p. 91, 1837 (type locality, Mauritius).

Gobius phalaena VALENCIENNES, Hist. Nat. Poiss., vol. 12, p. (70) 92, 1837 (type locality, Vanicolo). - PLEIJER, Nat. Tyds. Ned. Indie, vol. 2, p. (227) 244, 1851 (Banda Neira); vol. 3, p. 161, 1852 (Timor Kupang),

p. 237 (Wahai, Ceram); vol. 5, p. 234, 1853 (Ceram), p. 320 (Amboina); vol. 6, p. 90, 1854 (Banda Neira), p. 313 (Larantuka, Floris Is.); vol. 8, p. 446, 1855 (Kokos Is.); vol. 9, p. 65, 1855 (Batu Is.); vol. 10, p. 361 (Ternate); vol. 11, p. 95, 1856 (Banda); vol. 12, p. 193, 1856 (Ternate), p. 215 (Nias); Act. Soc. Sci. Ind. Neerl., No. 3, vol. 1, p. 5, 1856 (Manado); No. 5, vol. 1, p. 6, 1856 (Amboina); No. 7, vol. 2, p. 6, 1857 (Amboina); No. 4, vol. 3, p. 3, 1857-58 (Manado); Nat. Tjds. Ned. Indië, vol. 13, p. 372, 1857 (Sangi Is.); vol. 15, p. 201, 1858 (Goram), p. 458 (Cocos I.); vol. 16, p. 205, 1858 (Cocos I.); vol. 18, p. 356, 1859 (Bawean); vol. 22, p. 245 (Batoesendi, Bawean), p. 249 (Timor). - GÜNTHER, Cat. Fish. Brit. Mus., vol. 3, p. 67, 1861 (Amboyna). - SCHMELTZ, Cat. Mus. Godeffroy, No. 1, p. 9, 1864 (South Seas). - MARTENS, Preuss. Exped. Ost Asien, vol. 1, p. 392, 1876 (Amboina R.). - GÜNTHER, Journ. Mus. Godeffroy, vol. 6, pt. 11, p. 178, pl. 111, fig. C, 1877 (Palau; Samoa; Society Islands). - SCHMELTZ, Cat. Mus. Godeffroy, No. 7, p. 46, 1879 (Viti; Society Is.; Cook Is.). - GÜNTHER, Rep. Voy. Challenger, vol. 1, pt. 6, p. 35, 1880 (Ovalau; Fiji). - POHL, Cat. Mus. Godeffroy, No. 10, p. 33, 1884 (South Seas).

Gobius (Amblygobius) phalaena WEBER, Siboga Exped., No. 57, Fische,

p. 472, 1913 (Elat, Hoch-Kei; Pepela-Bai, Insel Rotti).

Amblygobius phalaena JORDAN and SEALE, Bull. Bur. Fisher, vol. 25, p. 405, 1905 (1906) (Apia, Samoa). - JORDAN and RICHARDSON, Bull. Bur. Fisher., vol. 27, p. 278, 1908 (Cagayancillo); Philippine Journ. Sci., p. 49, 1910 (reference). - KENDALL and GOLDSBOROUGH, Mem. Mus. Comp. Zool., vol. 26, p. 321, 1911 (Vavau, Fiji). - MC CULLOCH, Proc. Linn. Soc. N.S. Wales, vol. 36, p. 347, 1911 (Murray I.). - OGILBY, Mem. Queensland Mus., vol. 2, p. 91, 1913 (reference). - REGAN, Proc. Zool. Soc. London, p. 650, 1914 (Monte Bello Is., W. Australia). - MC CULLOCH and OGILBY, Rec. Austral. Mus., vol. 12, No. 10, p. 253, pl. 35, fig. 1, July 14, 1919 (Murray I., Torres Straits; types of Gobius annulatus; Two Isles; Masthead I.; New Hebrides). - HERRE, Gobies of Philippines, p. 235, pl. 30, fig. 3, 1927 (Puerto Galera; Cabalian; San Juan; Sibutu; Sitanki; Canigaran; Cebu, Tagbilarau). - WHITLEY, Journ. Pan-Pac. Res. Inst., vol. 3, No. 1, p. 13, Jan.-March 1928 (Santa Cruz Islands). - FOWLER, Mem. Bishop Mus., vol. 10, p. 412, 1928 (Pelew Islands; Society Islands; Fate; Guam; Apia; Vavau); vol. 11, No. 5, p. 362, 1931 (Guam). - MC CULLOCH, Austral. Mus. Mem., No. 5, pt. 3, p. 368, Nov. 1929 (reference). - HERRE, Fish. Herre 1931 Philippine Exped., p. 9, 1934 (Culion; Capiz; Dumaguete). - FOWLER, Mem.

- McCulloch and Whitley, Mem. Queensland Mus., vol. 8, pt. 2, p. 171, July 7, 1925 (reference).

Bishop Mus., vol. 11, No. 6, p. 444, 1934 (Aneiteum and Vila, New Hebrides; Bongainville I., Solomons). - HERRE, Field Mus. Publ., vol. 21, No. 353, p. 379, April 15, 1936 (Ovalan I., Fiji; Nukulau I., Fiji). - ROXAS and MARTIN, Dep. Agric. Comm. Manila, Tech. Pub. 6, p. 231, 1937 (reference).

Odontogobius phalaena SEALE, Occas. Pap. Bishop Mus., vol. 4, No. 1, p. 84, 1906 (Fate).

Gobius microlepidotus CASTELNAU, Vict. Offic. Rec. Philadelphia Exhib. (Res. Fish. Australia), p. 20, 1875 (type locality, Cape York). - MC CULLOCH and OGILBY, Rec. Austral. Mus., vol. 12, No. 10, p. 255, July 14, 1919 (reference).

Gobius annulatus DE VIS, Proc. Linn. Soc. N.S. Wales, vol. 9, pt. 3, p. 688, Nov. 29, 1884 (type locality, Cape York).

Gobius oligolepis (not Bloch) SEALE, Occas. Pap. Bishop Mus., vol. 4, No. 1, p. 84, 1906 (Fate).

Depth 3; head 3 1/3, width 2. Snout 3 2/5 in head; eye 4, 1 1/5 in snout, equals interorbital; maxillary reaches 1/4 in eye, length 2 1/4 in head; teeth rather large, conic, in bands in jaws with outer row slightly enlarged, especially anterolaterals last of which curved; tongue obtuse, rounded in front; interorbital 4 1/6, broadly convex. Gill rakers 0--5, lanceolate, rather flexible, 1 1/3 in gill filaments, which 1 2/3 in eye.

Scales 52+8 in median lateral series; 21 transversely; 23 predorsal. Head largely naked, except upper part of cranium forward to middle of interorbital and upper part of opercles. Row of fine papillae along preorbital and close along lower and hind edges of eye, giving 6 short branches down below eye; postocular row back to suprascapula; row along preopercle edge and forward on lower face of each mandibular ramus; row horizontally from above maxillary back across cheek. Scales with 20 or 21 basal radiating striae; apical denticles 25 to 30; circuli fine.

D. VI—I, 14, I, fourth spine 1 1/10 in head, fourth ray 1 3/4; A. I, 14, I, fourth ray 1 3/4; least depth of caudal peduncle 2 1/8; pectoral 1; ventral 1; caudal 2 4/5 in rest of fish, pointed behind.

Dull brown, becoming pale on under surface. On trunk and tail 6 transverse dark vertical bands. Cheek with scattered pale spots. Spinous dorsal dusky terminally and soft dorsal with median longitudinal dusky terminally and soft

dorsal with median longitudinal dusky band. Anal with edge brownish, and some small scattered gray spots posteriorly and terminally. Caudal pale brown and hind edge dusky, and blackish blotch on rays above and another below subterminally. Pectoral pale. Ventral deep brownish.

Mauritius, East Indies, Philippines, Riu Kiu, Queensland, Philippines, Western Australia, Melanesia, Polynesia.

one example. Romblon. Heine. March 26, 1908. Length 43 mm. [819]. This much like Tamiyama's figure of a young example, in which each dark transverse band with darker bordering line.

One example. Pandanon Island. Heine. March 23, 1909. Length 64 mm.

~~Amblygobius phalaena~~

U.S.N.M., no. 51815. Apia, Samoa. Bureau of Fisheries. Length 70 to 86 mm. Three examples.

U.S.N.M., no. 65727. Vavau, Tonga. Albatross Expedition 1899-1900. Length 33 mm. to end of broken caudal.

Amblygobius sphynx (Valenciennes)

Gobius sphynx VALENCIENNES, Hist. Nat. Poiss., vol. 12, p. (70) 93, 1839 (type locality, New Guinea). - BLEEKER, Nat. Tyds. Ned. Indië, vol. 6, p. (90) 103, 1854 (Banda Neira); vol. 7, p. 361, 1854 (Batjan); vol. 12, p. 508, 1856 (Wahai, Ceram); Act. Soc. Sci. Ind. Neerl., No. 5, vol. 1, p. 6, 1856 (Amboina); No. 7, vol. 7, p. 6, 1856 (Amboina); Nat. Tyds. Ned. Indie, vol. 13, p. 372, 1857 (Sangi); vol. 15, p. 201, 1858 (Goram).

Gobius sphinx GÜNTHER, Cat. Fish. Brit. Mus., vol. 3, p. 67, 1861 (Ceram; Borneo). - MARTENS, Preuss. Exped. Ost/ Asien, vol. 1, p. 392, 1876 (Ternate).

Amblygobius sphynx BLEEKER, Arch. Néerl. Sci. Nat. Harlem, vol. 13, p. 54, 1878 (reference). - HERRE, Gobies of Philippines, p. 237, 1927 (Puerto Galera; Bacon; Dumaguete; Cagayan; Samal I., Canigaran; Balabac; Jolo). - FOWLER, Mem. Bishop Mus., vol. 10, p. 412, 1928 (Moen). - HERRE, Fish. Herre 1931 Philippine Exped., p. 90, 1934 (Cebu; Dumaguete). - — Koumans, Zool. Mededel. Rijks Mus. Nat. Hist. Leiden, p. 138, 1935 (types). ROXAS and MARTIN, Depart. Agric. Comm. Manila, Tech. Bull. 6, p. 231, 1937 (reference). - FOWLER, ~~Catal.~~ List Fish. Malaya, p. 212, 1937 (reference).

Amblygobius semicinctus sphynx TOMIYAMA, Jap. Journ. Zool., vol. 7, No. 1, p. 77, 1936 (reference).

Amblygobius sphinx KÁROLI, Termesz. Fuzetek, Budapest, vol. 5, p. 165, 1881 (1882) (Seletar). - JORDAN and SEALE, Proc. U.S. Nat. Mus., vol. 28, p. 795, 1905 (Negros); Bull. Bur. Fisher., vol. 25, p. 406, 1905 (1906) (reference). - JORDAN and RICHARDSON, Mem. Carnegie Mus., vol. 4, No. 4, p. 201, 1909 (Takao, Formosa); Philippine Journ. Sci., p. 49, 1910 (reference). -KENDALL and GOLDSBOROUGH, Mem. Mus. Comp. Zool., vol. 26, p. 321, 1911 (Moen).

Gobius deilus Sauvage, Bull. Soc. Philomat. Paris, ser. 7, vol. 4, p. 47, 1880 (type locality, Pulo Condor).

One example. P. 8573. Cebu market.
April 15, 1908. Dynamite.
Length 135 mm. [503.] Each scale on body with small fine blue spot, also blue spots all over side of head.

Four examples. Surigao, Mindanao. Seine. May 8, 1908. Length 55 to 97 mm. These all show 7 pairs of whitish bands across the belly, all parallel and fading above on level with lower part of pectoral base. Small blue spots on all of scales evident.

Two examples. Cebu market, Cebu. March 28, 1909. Length 85 to 100 mm.

One example. Philippines. Length 81 mm.

[656] Shore above Iloilo, Panay. June 2, 1908. Length 65 mm. Drawn.

[657] Shore above Iloilo, Panay. June 2, 1908. Length 65 mm. Drawn.

U.S.N.M., no. 52020. Negros, Philippines. Dr. Bashford Dean. Length 100 mm.

U.S.N.M., no. 65728. Moen, Caroline Islands, Micronesia. Albatross Collection. Length 35 mm.

Optic Disc